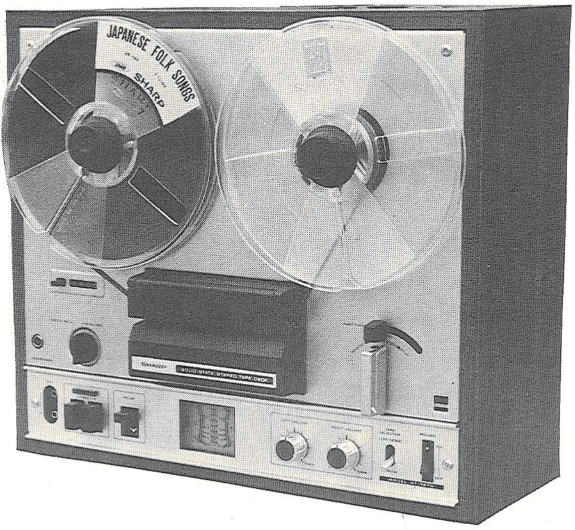
SHARP

Service Manual



MODEL
RT-727H
RT-727X

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SHARP CORPORATION OSAKA, JAPAN

■ SPECIFICATIONS

Type:	4-tracks 2-channels stereophonic recorder/player deck with preamplifier
Power source:	AC 110/220/240V 50Hz (RT-727H) AC 110/120/220/240V 50/60Hz (RT-727X)
Power consumption:	Maximum 25 watts
Dimensions:	374(W) x 333(D) x 191(H)mm, 14-3/4"(W) x 13-1/8"(D) x 7-17/32"(H)
Weight:	8.7kg, 19.0 lbs.
Tracks:	4-tracks, 2-channels
Tape speed:	19cm/sec, 9.5cm/sec 2-speed 7-1/2 ips, 3-3/4 ips 2-speed
Heads:	Record/Playback Head x 1 Erase Head x 1
Fast forward time:	150 seconds (370m tape)
Rewind time:	100 seconds (370m tape)
Recording system:	AC Bias system, 100kHz
Erasing system:	AC Erase system, 100kHz
Transistor and diode:	13 transistors, 4 diodes
Frequency response:	19cm/sec (7-1/2 ips); Low noise tape used 25 – 21,000Hz Normal tape used 25 – 17,000Hz 9.5cm/sec (3-3/4 ips); Low noise tape used 25 – 13,500Hz Normal tape used 25 – 11,000Hz
Wow and flutter:	19cm/sec (7-1/2 ips); 0.08% WRMS, 0.4% W.P. DIN 9.5cm/sec (3-3/4 ips); 0.12% WRMS, 0.5% W.P. DIN
Total distortion ratio:	1.5%
Signal/Noise ratio:	48dB
Input terminals:	Microphone input (10K ohm) x 2 Line input (220K ohm) x 2 (RT-727X)
Output terminals:	Headphone output (8 ohm) x 1 Line output (50K ohm) x 2 (RT-727X)
Record/Playback connector (RT-727H):	Input sensitivity impedance: 4mV @43K ohm at "LOW" Position 40mV @ 500K ohm at "HIGH" Position Output level & loaded impedance: 0.775V @500K ohm

■ DESIGNATION OF CONTROLS (Refer to Fig. 1)

1. Microphone input jacks (L, R)
2. Headphone output jack
3. Tape speed selector knob
4. Supply reel spindle
5. Head cover
6. Take up reel spindle
7. Fast forward knob
8. Function selector knob
9. Power on-off switch
10. Tape selector switch
11. Record level control knobs (L, R)
12. Record level meter (L, R)
13. Pause button
14. Record buttons (L, R)
15. Voltage selector socket
16. Line input jacks (L, R) (RT-727X)
17. Line output jacks (L, R) (RT-727X)
18. AC power supply cord
19. Record/playback connector (RT-727H)
20. Input level selector switch (RT-727H)

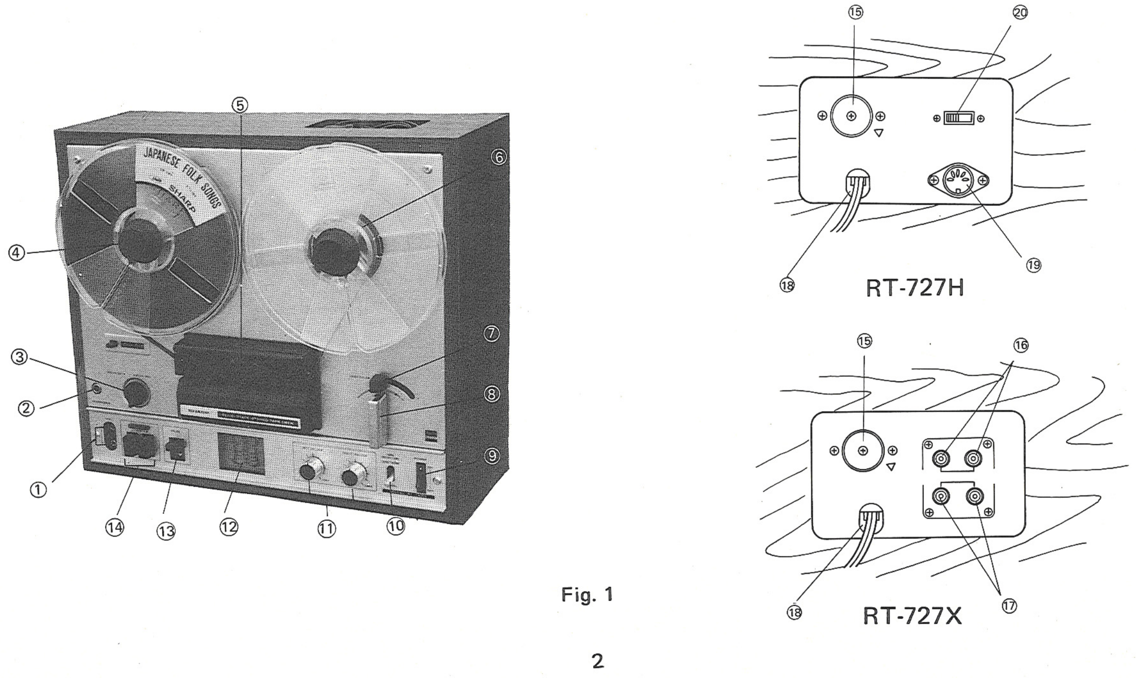


Fig. 1

■ CABINET REMOVAL (Refer to Fig. 2)

(1) Remove two record level control knobs (004), function selector knob (005), fast forward knob (006) and tape speed selector knob (008) from the set.
(2) Remove three front panel retaining screws (157) and two control panel retaining screws (156). Then front panel (035) and control panel (002) can be removed from cabinet (046).
(3) Remove four cabinet retaining screws (159) at rear of the set and two chassis retaining screws at front.
(4) Then cabinet (046) and main chassis (069) can be disassembled.

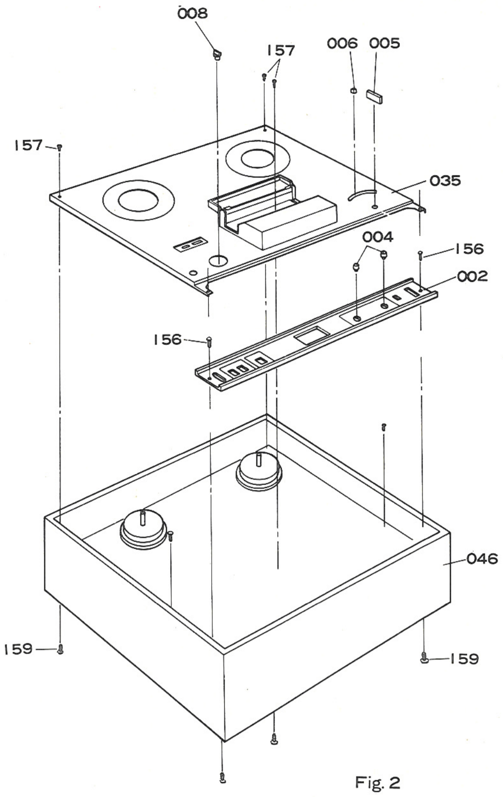


Fig. 2

■ MECHANISM ADJUSTMENT

1. ADJUSTMENT OF HEADS HEIGHT (Refer to Fig. 3A, B)

(1) Place 6.3kHz recorded tape on supply reel spindle (116) to get ready for playing.
(2) (RT-727H) Connect an 8 ohm resistor to 3, 2 pins of record/playback connector socket (SO2), and connect AC VTVM to the resistor.
(RT-727X) Connect an 8 ohm resistor to Line out jack of CH-1, and connect AC VTVM to the resistor.
(3) Turn on the power supply switch (SW6) and shift the function selector knob (005) in playback position.
(4) Regulate the number of spacers (093, 095, 096) so that AC VTVM reading becomes maximum and then adjust the height of record/playback head (097).
(5) (RT-727H) Similarly, connect an 8 ohm resistor to 5, 2 pins of record/playback connector socket (SO2), and find out the position when its reading becomes maximum.
(RT-727X) Connect an 8 ohm resistor to Line out jack of CH-2, and find out the position when its reading becomes maximum.
(6) By repeating the above, find out the position when reading for both channels becomes nearly equal.
(7) Place a tape and take streophonic recording.
(8) shift the record level control knobs (004) in minimum position and erase the recorded tape mentioned in the above paragraph.
(9) Playback the erased tape to check if the tape is completely erased and change the erase head (098) height by regulating the spacers (093, 095, 096) in case erasing is imperfect.

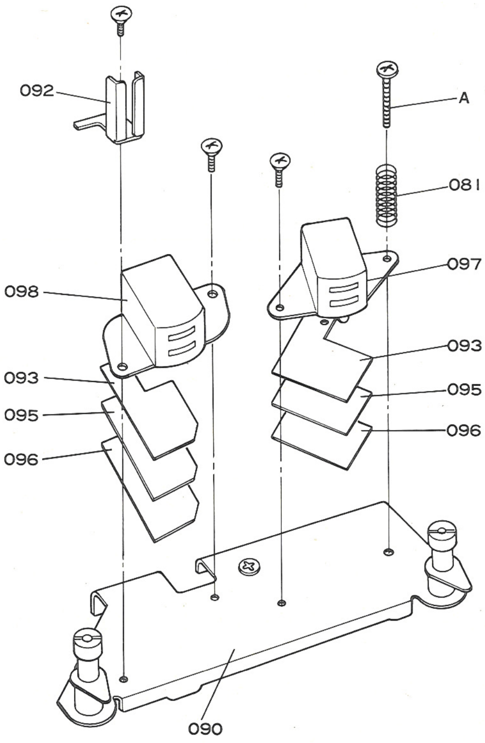


Fig. 3A

2. AZIMUTH ADJUSTMENT OF HEAD (Refer to Fig. 3A,B)

(1) Place 6.3kHz recorded tape.
(2) Connect AC VTVM according to the procedures for the "Adjustment of heads height".
(3) Get the set in playback mode and adjust the head azimuth adjusting screw (A) so that VTVM reading becomes maximum.
(4) After completing the adjustment, apply a laquer to screw heads.

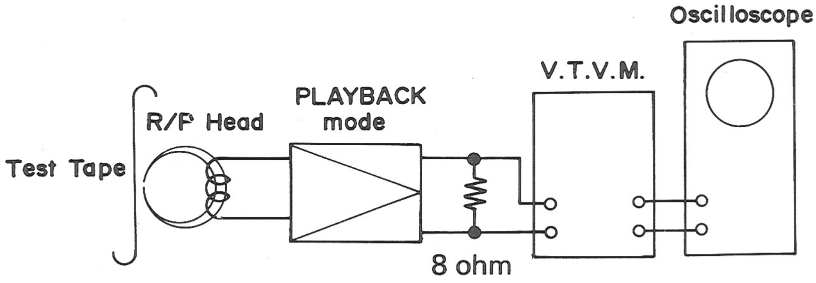


Fig. 3B

3. POSITION ADJUSTMENT OF SHUT-OFF SWITCH (Refer to Fig. 4)

(1) Supply power and shift the function selector knob (005) in playback position.
(2) Confirm that power supply is cut off by pushing the shut-off switch lever (104).
(3) Shift the function selector knob (005) in stop position.
(4) In case power supply shutting off is too early, move the shut-off switch (SW7) in the direction as shown in Fig. 4.
(5) In case power supply shutting off is delayed, move the shut-off switch (SW7) in the opposite direction to the arrow in Fig. 4.

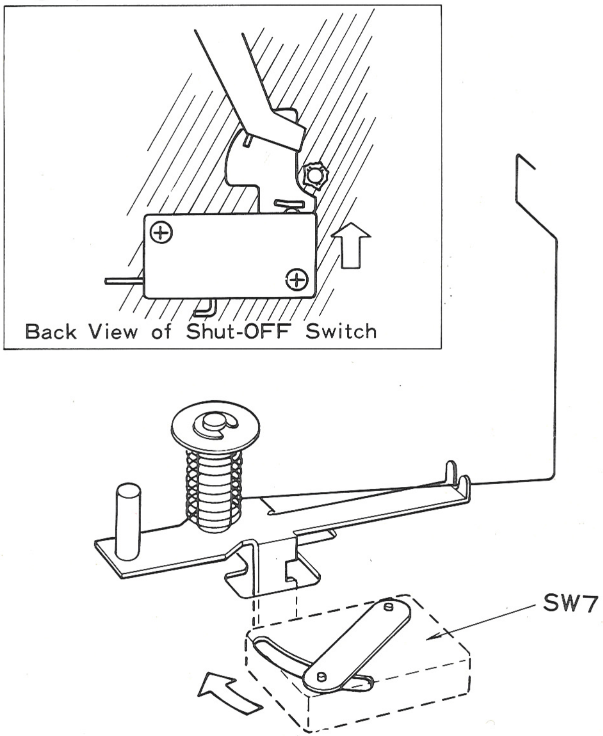


Fig. 4

4. ADJUSTMENT IN FAST FORWARD MODE (Refer to Fig. 5)

(1) Put a 7-inch test reel on take-up reel spindle (117) and then turn on the power supply switch.
(2) Hook a tension gauge on the test reel and set the unit in fast forward mode.

(3) At the time, keep the shut-off switch (SW7) in ON position.
(4) The take-up tension of a normal set is 710±150 g.cm in fast forward mode.
(5) If the tension is out of this range, change the position of adjusting plate (A) in the reel spindle (117) or place washer between adjusting plate (A) and plate spring (B).
(6) After completing the adjustment, stop power supply and re-place the test reel onto supply reel spindle (116).
(7) Turn on the power supply switch and set the unit in fast forward mode.
(8) If the set is normal the back tension is 90±15 g.cm in fast forward mode.

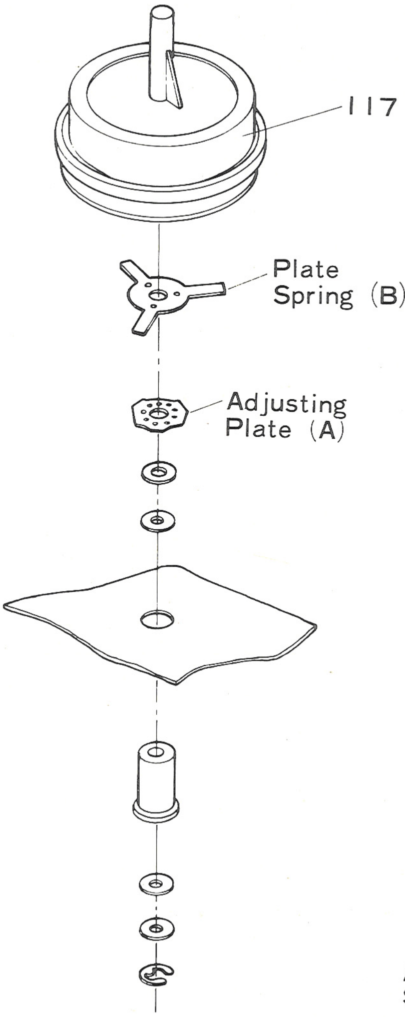


Fig. 5

5. ADJUSTMENT IN REWIND MODE (Refer to Fig. 6)

(1) Put a 7-inch test reel on supply reel spindle (116) and then turn on the power switch.
(2) Hook a tension gauge on the test reel and shift the function selector knob (005) in rewind mode.
(3) At the time shift the shut-off switch (SW7) in ON position by pressing the shut-off switch lever (104).
(4) If the set is normal, the take-up tension is 450±150 g.cm in rewind mode.
(5) If the tension is out of this range, change the spring (A) in the reel spindle (116) or adjust or change the rewind roller lever spring (054).
(6) After finishing the adjustment, turn off the power supply switch and put a test reel on the take-up reel spindle (117).
(7) Turn on the power supply switch and shift the function selector knob (005) in rewind mode.
(8) If the set is normal, the back tension is 30^{+0}_{-15} g.cm in rewind mode.

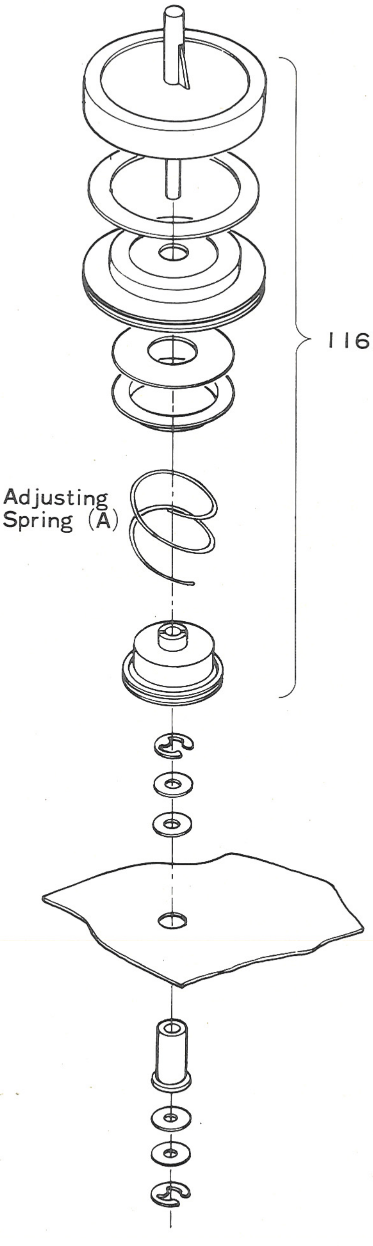


Fig. 6

*** REWIND ROLLER PRESSURE ADJUSTMENT** (Refer to Fig. 7)

1. Turn on the power supply switch and shift the function selector knob (005) in rewind position.
2. Shift the shut-off switch (SW7) in ON position by pressing the shut-off switch lever (104).
3. Hook a tension gauge on rewind roller (075) and pull it in the direction at right angle to the line connecting the center of idler shaft and motor pulley.
4. If the set is normal, the measured value is 400±50 g.
5. If the tension is out of this range, adjust it by rewind roller lever spring (054).

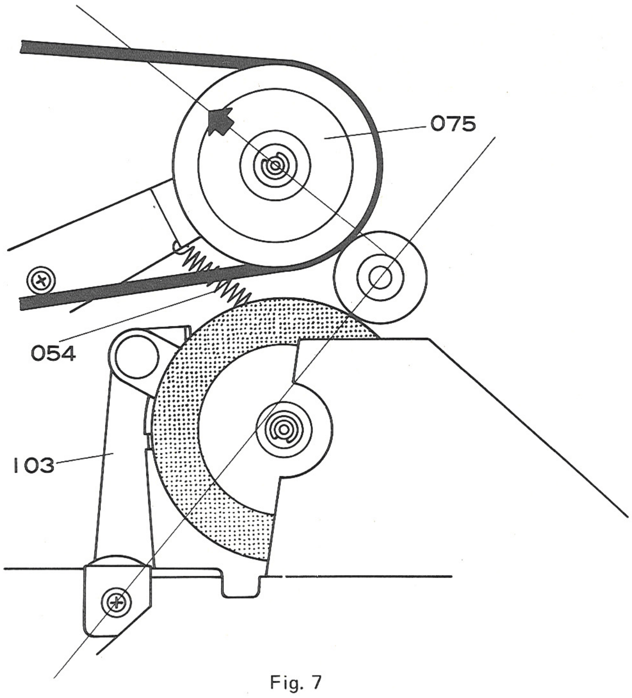


Fig. 7

6. ADJUSTMENT IN PLAYBACK MODE

*** TAKE UP TENSION ADJUSTMENT** (Refer to Fig. 8)

1. Put 7-inch test reel on the take-up reel spindle (117) and then turn on the power supply switch.
2. Hook a tension gauge on the test reel and shift the function selector knob (005) in playback position.
3. At the time, shift the shut-off switch (SW7) in ON position by pressing the shut-off switch lever (104).
4. If the set is normal, the take-up tension is 150±30 g.cm in playback mode.
5. If the tension is out of this range, change the position of fast forward roller lever (041) spring (052) or bend it by pliers. In case such a measure does not work, change the spring (052) or take-up reel spindle drive belt (115).

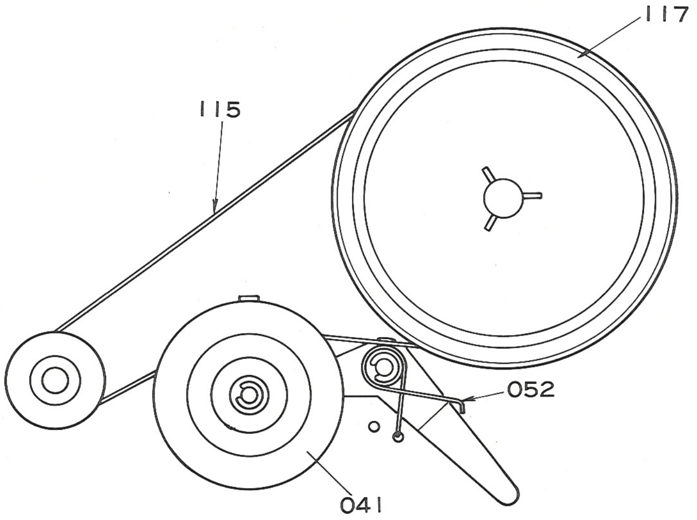


Fig. 8

* PINCH ROLLER PRESSURE ADJUSTMENT (Refer to Fig. 9)

(1) Set the tape loaded on a 7-inch reel.

(2) Supply power, and shift the function selector knob (005) in playback position and then run the tape.

(3) When the tape is taken up approximately by half, hook a tension gauge on the pinch roller and confirm the value shown when the tape stops.

(4) If the set is normal, the pressure of pinch roller (127) is 1.4±0.2 kg.

(5) If the pressure is out of this range, adjust it by pinch roller lever spring (107).

(6) At the time, keep the tape selector knob (008) in 19cm/sec position.

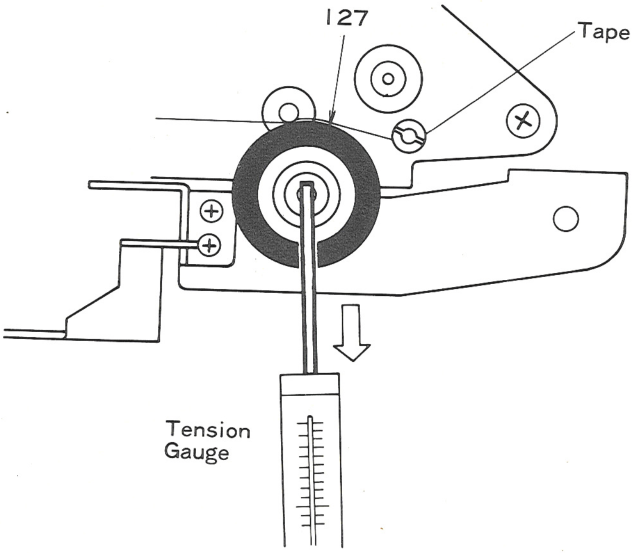


Fig. 9

* IDLER PRESSURE ADJUSTMENT (Refer to Fig. 10)

(1) Supply power and shift the function selector knob (005) in playback position.

(2) Shift the shut-off switch (SW7) in ON position by pressing the shut-off switch lever (104).

(3) Pull the idler (103) in the direction at right angle to the line connecting the center of capstan shaft and motor pully shaft.

(4) If the set is normal, the pressure of the idler is 300±50g.

(5) If the pressure is out of this range, adjust it by idler lever spring (109).

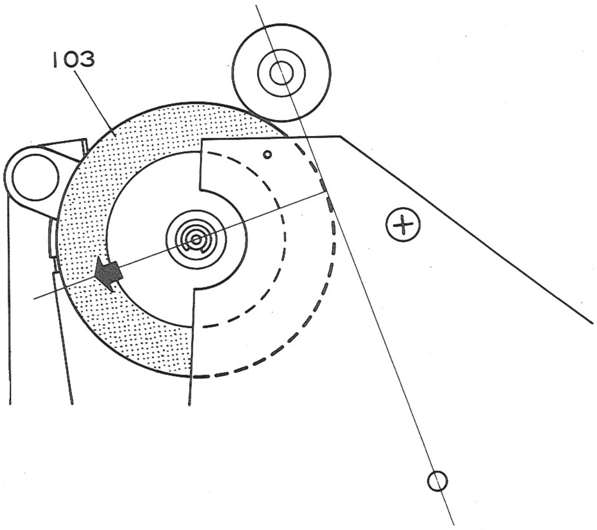


Fig. 10

*** PAUSE MECHANISM ADJUSTMENT** (Refer to Fig. 11)

(1) Without power supply, shift the function selector knob (005) in playback position.
(2) Pull in the pause button (007) to get the set in pause mode.
(3) At the time, confirm that the distance between the capstan shaft and pinch roller is 0.2 – 0.6mm.
(4) If the value is out of this range, adjust tape lifter/shifter (089) by pliers.
(5) When it is lower than the normal value, move it in the arrow direction in Fig. 11. When it is higher, move it in the opposite direction.

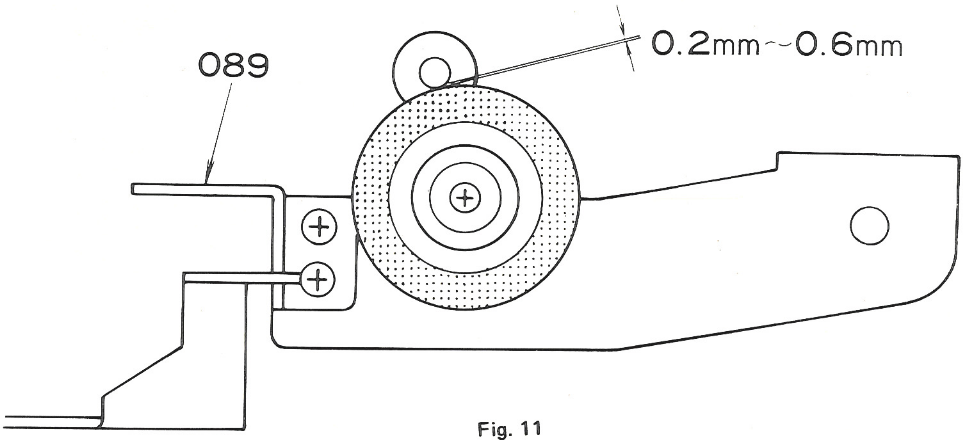


Fig. 11

7. ADJUSTMENT OF BRAKE OPERATION IN REEL SPINDLE

* TAKE-UP REEL SPINDLE (Refer to Fig. 12)

(1) Put 7-inch test reel on the take-up reel spindle.
(2) Hook a tension gauge on the reel and pull it in the direction at right angle to the center of the reel.
(3) If the set is normal, the tension is 810±150 g.cm in clockwise and 135±15 g.cm in counterclockwise.
(4) If the tension is out of this range, adjust it as follows.
  1) In case the value measured is lower than normal value, move the adjusting plate (067) in the opposite direction to the arrow in Fig. 12.
  2) In case the value is higher than the normal value, move the adjusting plate (067) in the arrow direction as shown in Fig. 12.

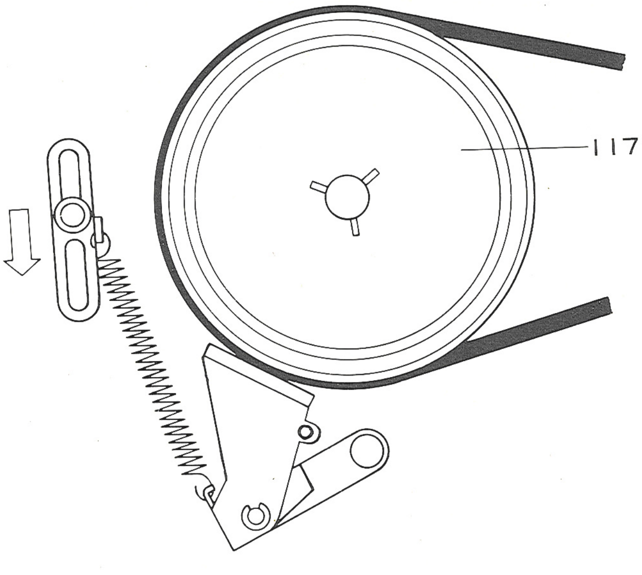


Fig. 12

* SUPPLY REEL SPINDLE (Refer to Fig. 13)

(1) Put a 7-inch test reel on the supply reel spindle.
(2) Hook a tension gauge on the reel and pull it in the direction at right angle to the center of the reel.
(3) If the set is normal, the value is 240±60 g.cm in clockwise and 450±150 g.cm in counterclockwise.
(4) If the value is out of this range, adjust it as follows.
    1) When the value is lower than the normal value, move the adjusting plate (067) in opposite direction to the arrow in Fig. 13.
    2) When it is higher than the normal value, move the adjusting plate (067) in the arrow direction as shown in Fig. 13.

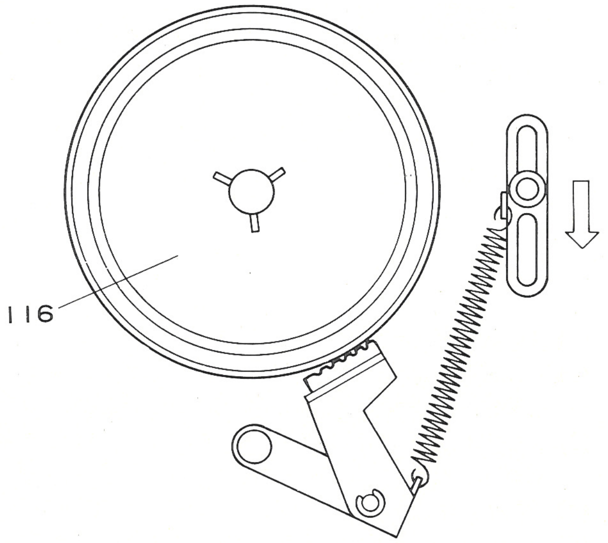


Fig. 13

8. REEL SPINDLE HEIGHT ADJUSTMENT (Refer to Fig. 14)

(1) Measure the reel spindle (116, 117) height from the main chassis (069) as shwon in Fig. 14.
(2) If it is normal, the height measures approximately 34.5mm. If the height is not normal, adjust it by the washer in the reel spindle.

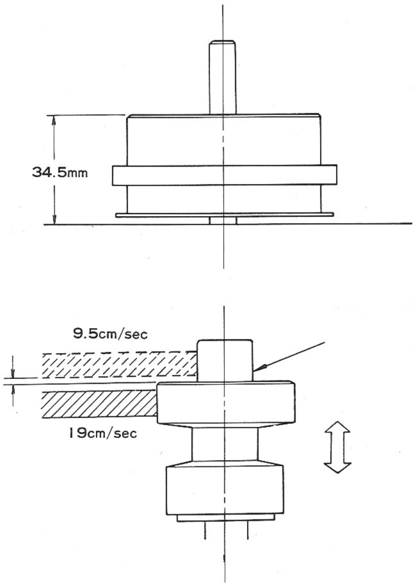


Fig. 14

■ ELECTRICAL ADJUSTMENTS

1. ADJUSTMENTS OF BIAS CURRENT AND BIAS OSCILLATING FREQUENCY (Refer to Fig. 15)

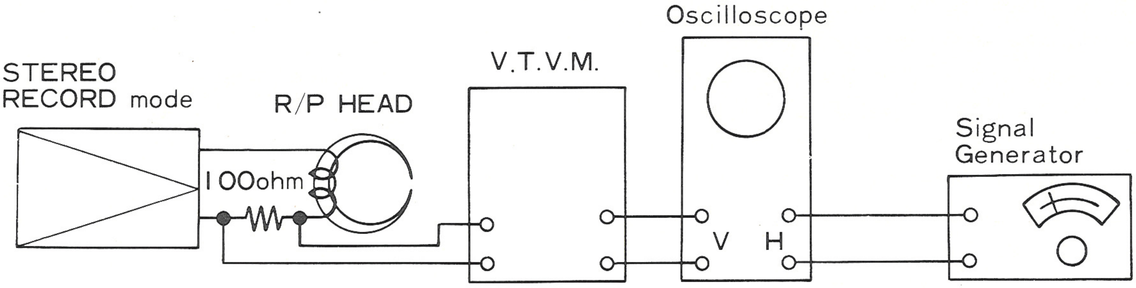


Fig. 15

V : Vertical
H : Horizontal

(1) Set the unit in stereo recording mode.
(2) Connect the 100 ohm, ±5%, 1/2W resistor between the earth lead (white) of the record/playback head in recording and connect VTVM thereto and an oscilloscope to the output terminal of VTVM.
(3) Apply the signal generator output to the horizontal axis to gain Lissajou's wave.
Confirm that the bias oscillating frequency is within 100kHz ± 1.5kHz.
(4) At the time, confirm that VTVM (bias current: 800μA) indicates 80mV.
(5) Adjust the bias oscillating frequency at 100kHz by turning the core of oscillating coil (L5) and bias current by using the variable resistor R105 (R106).
(6) Repeat the procedures (3) and (4) and confirm that 80mV, 100kHz is gained for both channels.

2. RECORDING CURRENT ADJUSTMENT (Refer to Fig. 16)

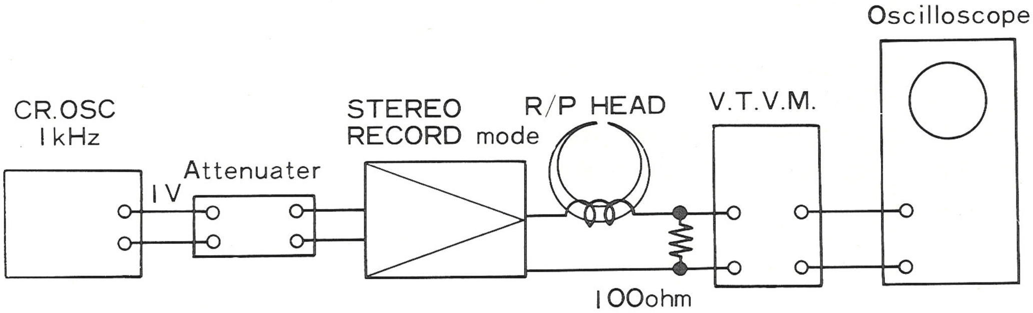


Fig. 16

(1) Set the unit in stereo recording mode.
(2) Connect an electrolytic capacitor (10V/100 MFD) to the erase head (bias oscillation stops).
(3) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(4) Apply −60dB (0dB = 1V), 1kHz signal to MIC terminal and adjust the volume control (R107, R108) so that the level meter indicates 0VU.
(5) Connect the 100 ohm, ±5%, 1/2W resistor between the earth lead (white) of the record/playback head in recording and connect VTVM thereto.
(6) Adjust the variable resistor R103 and R104 so that VTVM indicates 5.8mV.
Note: Set the operation lever at "PLAY".

3. ADJUSTMENT OF PLAYBACK AMPLIFIER SENSITIVITY (Refer to Fig. 17)

1. Set the unit in stereo playback mode.
2. Set the tape speed at 19cm/sec.
3. Apply 1kHz, −75dB (0dB = 1V) signal between the playback earth lead (red) of the record/playback head and the head terminal and adjust R101 and R102 so that the level meter indicates 0VU.

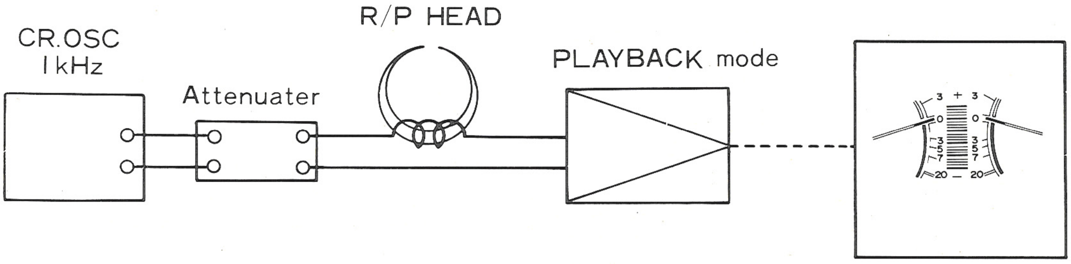


Fig. 17

4. ADJUSTMENT OF PLAYBACK NOISE (Adjustment of hum cancel coil) (Refer to Fig. 18)

1. Set the unit in playback mode.
2. Adjust the angle of Hum Cancel Coil (L6, L7), observing the output voltage and waveform through VTVM and oscilloscope, and fix it when the waveform becomes flat.

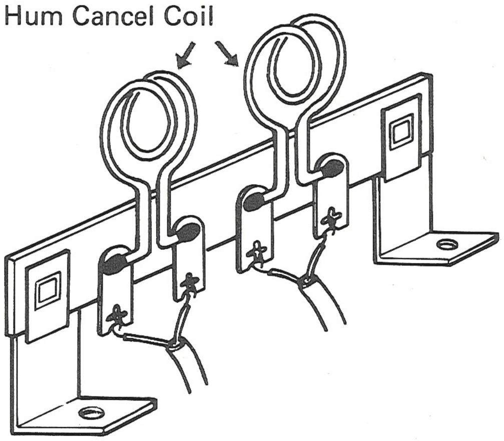
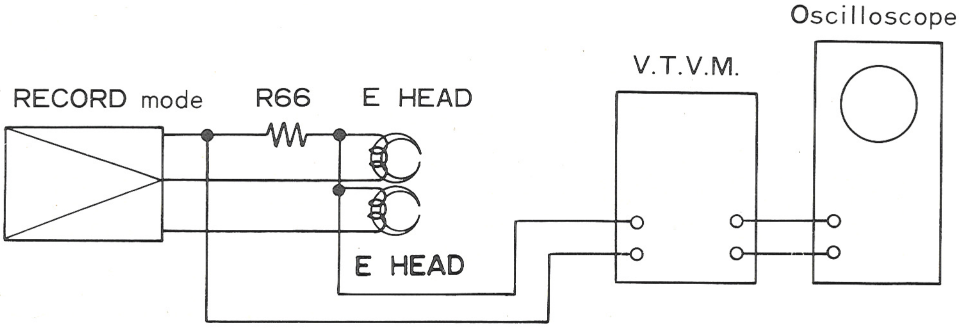


Fig. 18

■ ELECTRICAL MEASUREMENTS

1. ERASE VOLTAGE CHECK (Refer to Fig. 19)

(1) Set the unit in stereo recording mode.
(2) Connect the AC VTVM across R66 (1/2W, 0.5 ohm).
(3) At the time, confirm that VTVM indicates 40±10mV in STEREO mode and 22±5mV in sound-with-sound mode.


Oscilloscope
V.T.V.M.
RECORD mode
R66
E HEAD
E HEAD

2. MEASUREMENT OF RECORDING AMPLIFIER SENSITIVITY (Refer to Fig. 20)

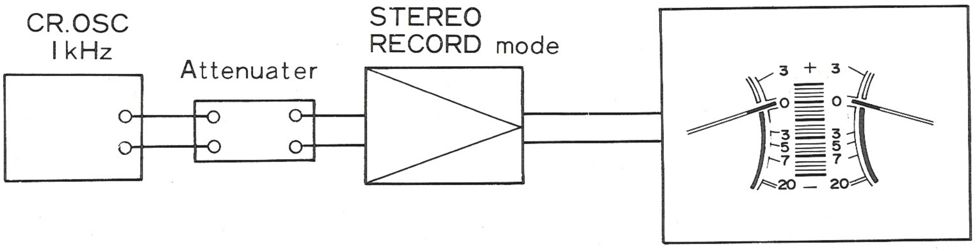

CR.OSC
1kHz
Attenuater
STEREO
RECORD mode
3 + 3
0
0
3
5
7
3
5
7
20 — 20

Fig. 20

(1) Set the unit in stereo recording mode.
(2) Connect an electrolytic capacitor (10V/100MFD) to the erase head (bias oscillation stops).
(3) Adjust the volume control at maximum.
(4) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(5) Apply 1kHz signal to each input terminal and adjust the attenuator so that the level meter indicates 0VU.
(6) At the time, confirm that –70±2dB is gained for MIC terminal, –26±2dB for LINE-IN terminal and –48±2dB for DIN-IN terminal.
(7) Sensitivity difference between both channels must be within 2dB.

3. MONITOR OUTPUT VOLTAGE AND DISTORTION (Refer to Fig. 21)

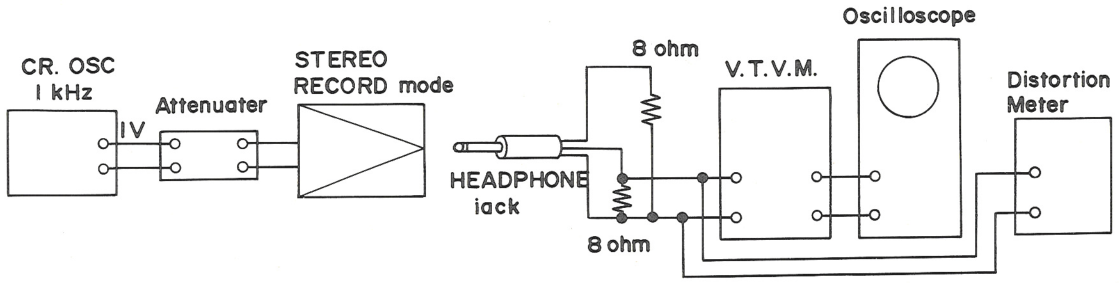

CR. OSC
1 kHz
1V
Attenuater
STEREO
RECORD mode
HEADPHONE
jack
8 ohm
8 ohm
V.T.V.M.
Oscilloscope
Distortion
Meter

Fig. 21

(1) Set the unit in stereo recording mode.
(2) Connect an electrolytic capacitor (10V/100MFD) to the erase head (bias oscillation stops).
(3) Adjust the volume control at maximum.
(4) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(5) Connect 8 ohm, 5% resistor to the headphone jack and connect VTVM thereto.
(6) Apply 1kHz signal to MIC terminal and adjust the attenuator so that the level meter indicates 0VU.
(7) At the time, VTVM indicates 63±15mV.
(8) Voltage difference between channels must be within 5mV and distortion within 3%.

4. MEASUREMENT OF FREQUENCY CHARACTERISTIC OF RECORDING AMPLIFIER (HEAD CURRENT) (Refer to Fig. 22)

(1) Set the unit in stereo recording mode.
(2) Connect an electrolytic capacitor (10V/100MFD) to the erase head (bias oscillation stops).
(3) Apply −70dB (0dB = 1V), 1kHz signal to MIC terminal and connect the 100 ohm, ±5%, 1/2W resistor between the earth lead (white) of the record/playback head in recording and connect VTVM thereto.
(4) With the tape speed at 19cm/sec and the tape selector switch at NORMAL, adjust the volume control so that VTVM indicates −10dB (0.775mV) in the full-scale range (3mV).
(5) After that, keeping the volume and input level unchanged, measure deviation of each frequency to 1kHz for each tape speed and tape selector.
(6)

19cm/sec	50Hz	0±2dB	9.5cm/sec	7.5kHz (NORMAL)	11±2dB
	12kHz (NORMAL)	10±1dB		10kHz (L, H)	15±2dB
	15kHz (L, H)	6±2dB			

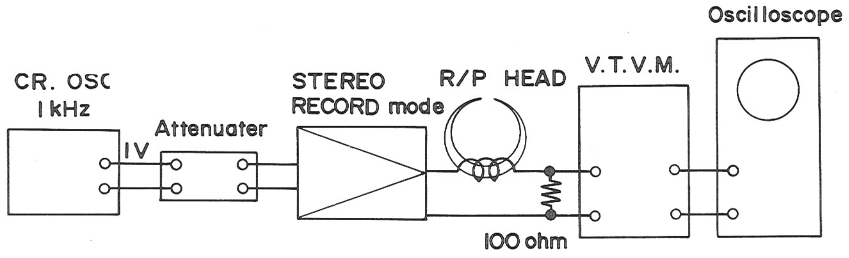

CR. OSC
1 kHz
1V
Attenuater
STEREO
RECORD mode
R/P HEAD
100 ohm
V.T.V.M.
Oscilloscope

Fig. 22

5. MEASUREMENT OF PLAYBACK AMPLIFIER FREQUENCY CHARACTERISTIC (Refer to Fig. 23)

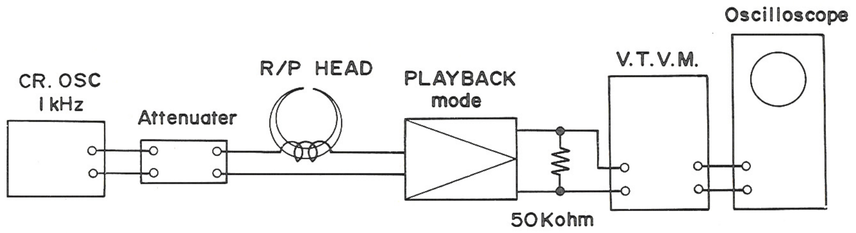

CR. OSC
1 kHz
Attenuater
R/P HEAD
PLAYBACK
mode
50Kohm
V.T.V.M.
Oscilloscope

Fig. 23

(1) Connect the 50K ohm, 5% dummy load resistor across the OUTPUT terminal.
(2) Apply 1kHz signal between the earth lead (red) of the Record/Playback head and the head terminal and adjust the attenuator so that output voltage becomes 0.316V.
(3) With the tape speed set at 19cm/sec, measure the deviation of output voltage between 50Hz and 1kHz.
(4) Similarly, find out the deviation for each frequency and tape speed.

19cm/sec	50Hz	+20±2dB	9.5cm/sec	7.5kHz	−4±2dB
	12kHz	−9±2dB			

NOTE: OUTPUT TERMINAL, LINE-OUT (RT-727X), DIN terminal 3, 5 (RT-727H)

6. MEASUREMENT OF BIAS LEAK VOLTAGE (Refer to Fig. 24)

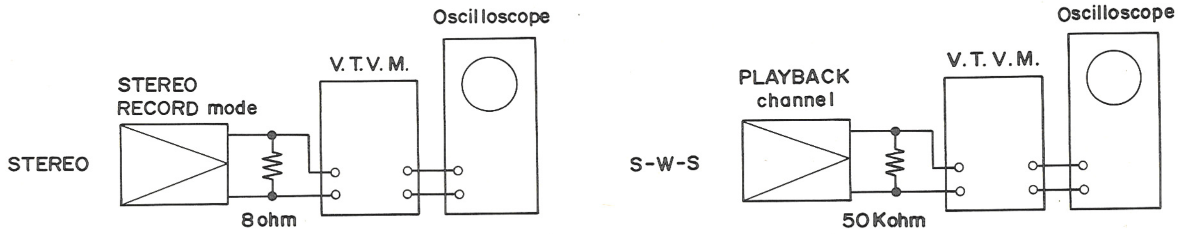

STEREO
STEREO
RECORD mode
8ohm
V.T.V.M.
Oscilloscope
S-W-S
PLAYBACK
channel
50Kohm
V.T.V.M.
Oscilloscope

Fig. 24

(1) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(2) Adjust the volume control at maximum.
(3) Measure the voltages at both ends of the 8 ohm, 5% resistor connected to the headphone terminal in no-signal stereo recording mode and confirm that it is below 5mV and that the level meter's pointer doesn't reflect.
(4) Connect the 50K ohm, 5% dummy load resistor across the OUTPUT terminal.
In no-signal, sound-with-sound mode, measure the output voltage of channel in playback mode and confirm that it is below 50mV and that the livel meter for both channels doesn't reflect.
NOTE: When the bias leak is out of specification adjust the position and angle of bias trap coil (L4) for channel 2, monitoring both channels.

7. MEASUREMENT OF PLAYBACK SENSITIVITY VOLTAGE (TEST TAPE) (Refer to Fig. 25)

(1) Set the tape speed at 19cm/sec.
(2) Connect the 50K ohm, 5% dummy load resistor across OUTPUT terminal.

(3) Playback 700Hz test tape and measure the voltages at both ends of 50K ohm, 5% resistor connected to OUTPUT terminal and confirm that they are within 0.775V±3dB

(4) When the above is not satisfied.
  a. Playback amplifier sensitivity adjustment (R101, R102)
  b. Head azimuth re-adjustment
  c. Head cleaning
  d. When these three measures do not work and the voltage is within ±3dB to 0.7V (0.5 ~ 0.6V, 0.8 ~ 1.0V), adjust it by R101, R102.

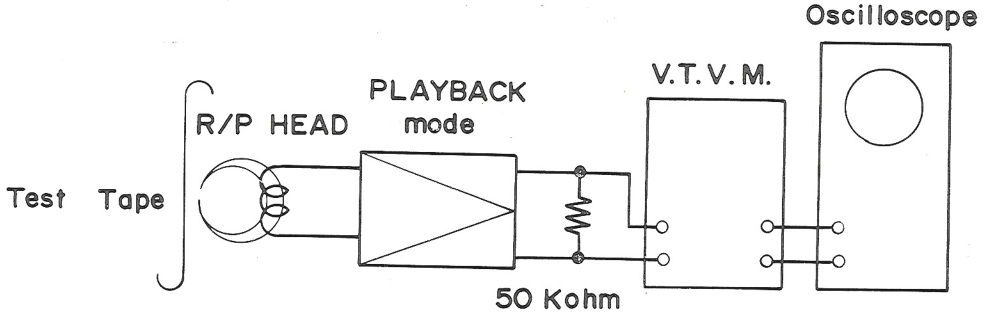

Oscilloscope
V.T.V.M.
PLAYBACK mode
R/P HEAD
Test Tape
50 Kohm

Fig. 25

8. MEASUREMENT OF RECORDING PLAYBACK SENSITIVITY VOLTAGE AND DISTORTION

(Refer to Fig. 26)

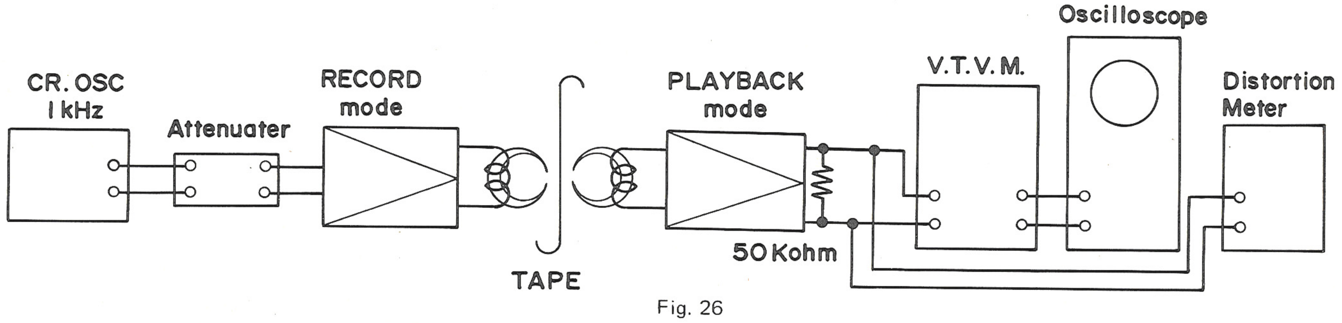

CR. OSC
1 kHz
Attenuater
RECORD mode
TAPE
PLAYBACK mode
50 Kohm
V.T.V.M.
Oscilloscope
Distortion Meter

Fig. 26

(1) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.

(2) Apply –60dB (0dB = 1V) signal to MIC terminal and adjust the volume control so that the level meter indicates 0VU, and then record.

(3) Connect the 50K ohm, 5% dummy load resistor across the OUTPUT terminal.

(4) Playback the above recorded part and confirm that the OUTPUT terminal voltage is within 0.775V $^{+2}_{-3}$ dB (0.550 – 0.975V).

(5) Difference between channels must be within 3dB in the above range.

9. MEASUREMENT OF TOTAL FREQUENCY CHARACTERISTIC (STANDARD TAPE)

(Refer to Fig. 27)

(1) Set the tape selector switch at NORMAL.

(2) Connect the 50K ohm, 5% dummy load resistor across the OUTPUT terminal.

(3) Apply –50dB (0dB=1V), 1kHz signal to MIC terminal and adjust the volume control so that the level meter indicates 0VU and then record with an input of –70dB. With the input level and volume control unchanged, record the signal of each frequency.

(4) Playback the recorded part and measure deviation of OUTPUT to 1kHz. The deviation must be within the following range.

(5) When it is out of specification in high frequency.
  a. Head surface is dirty.
  b. Confirm that the tape pad is normal. It is then possible to change the bias current within the range of 800±80μA. Recheck however the total distortion of oscillation frequency.

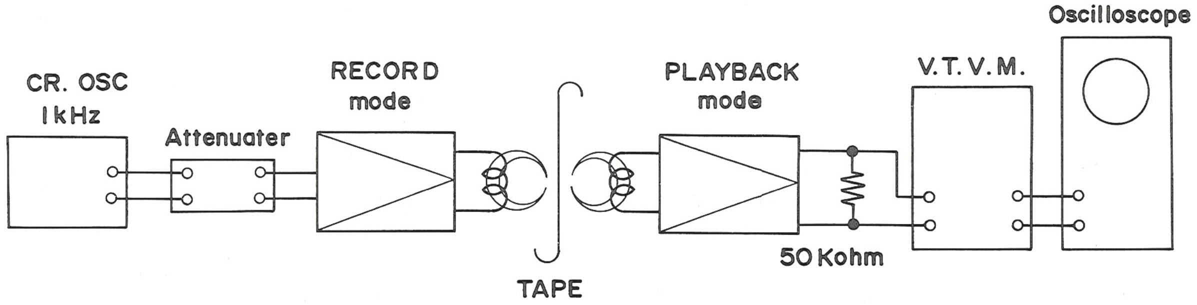

CR. OSC
1kHz
Attenuater
RECORD mode
TAPE
PLAYBACK mode
50 Kohm
V.T.V.M.
Oscilloscope

Fig. 27

10. TEST TAPE PLAYBACK FREQUENCY CHARACTERISTIC(Refer to Fig. 28)

(1) Connect the 50K ohm, 5% dummy load resistor across the OUTPUT terminal.

(2) Playback the test tape for frequency characteristic measurement and measure the voltages at both ends of the 50K ohm, 5% resistor connected to the OUTPUT terminal.

(3) For 19 cm/sec, measure the output deviation of each frequency to 700Hz. It must be within the following range.

(4) For 9.5 cm/sec, measure the output deviation of each frequency to 700Hz, it must be within the following range.

19cm/sec	100Hz	+1±4dB	9.5cm/sec	50Hz	0±4dB
	15kHz	–1±4dB		7.5kHz	–1±4dB

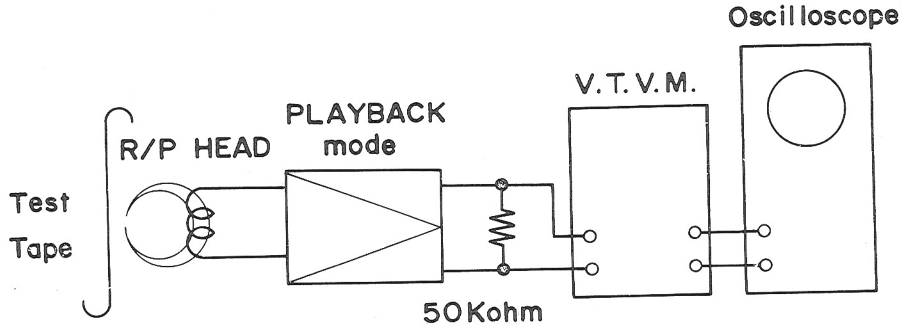

Oscilloscope
V.T.V.M.
PLAYBACK mode
R/P HEAD
Test Tape
50 Kohm

Fig. 28

11. MEASSUREMENT OF S/N RATIO (Refer to Fig. 29)

(1) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(2) Set the volume control at maximum, apply –70dB (0dB=1V), 1kHz signal from MIC terminal and then record.
(3) Set the volume control at maximum and record in no-signal mode.
(4) Playback the recorded part and measure the playback output of signal and no-signal portions and the voltages at both ends of 50K ohm 5% resistor connected to the OUTPUT terminal through the weighted circuit. the deviation must be over 45dB.

Note:
(1) The above measurement must be performed in the state of the least influence of outside induction.
(2) The tape used must be sufficiently demagnetized by using a demagnetizer.
(3) Portions where the tape runs on such as recording head, erase head and tape pad must be demagnetized.

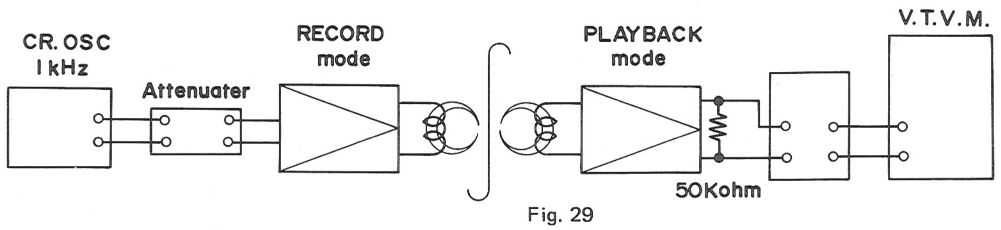

CR. OSC
I kHz
Attenuater
RECORD
mode
PLAYBACK
mode
50Kohm
V.T.V.M.

Fig. 29

12. MEASUREMENT OF TRACK-TO-TRACK CROSSTALK (Refer to Fig. 30)

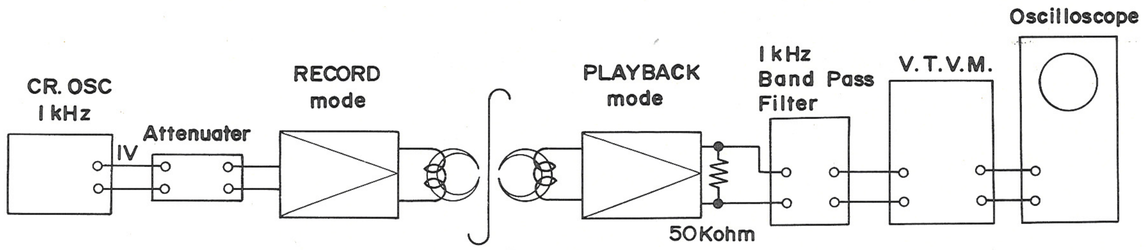

CR. OSC
I kHz
IV
Attenuater
RECORD
mode
PLAYBACK
mode
50Kohm
I kHz
Band Pass
Filter
V.T.V.M.
Oscilloscope

Fig. 30

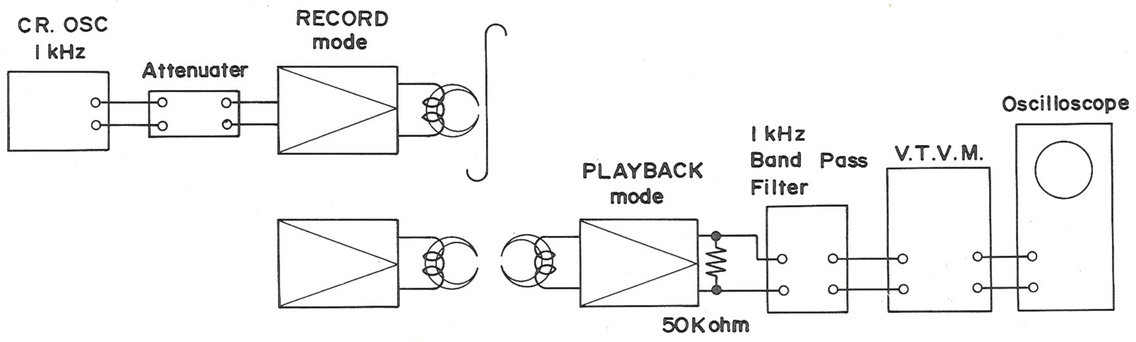
(1) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(2) Set the volume control at maximum, apply –60dB(0dB=1V), 1kHz signal from MIC terminal and then record.
(3) Playback the recorded part and measure the voltages at both ends of 50K ohm, 5% resistor connected to the OUTPUT terminal through 1kHz band-pass filter.
(4) Then exchange the right and left-hand reels with each other. Playback the tape and measure the OUTPUT in the same manner as in (3)
(5) The deviation between the above (3) and (4) must be over 60dB.

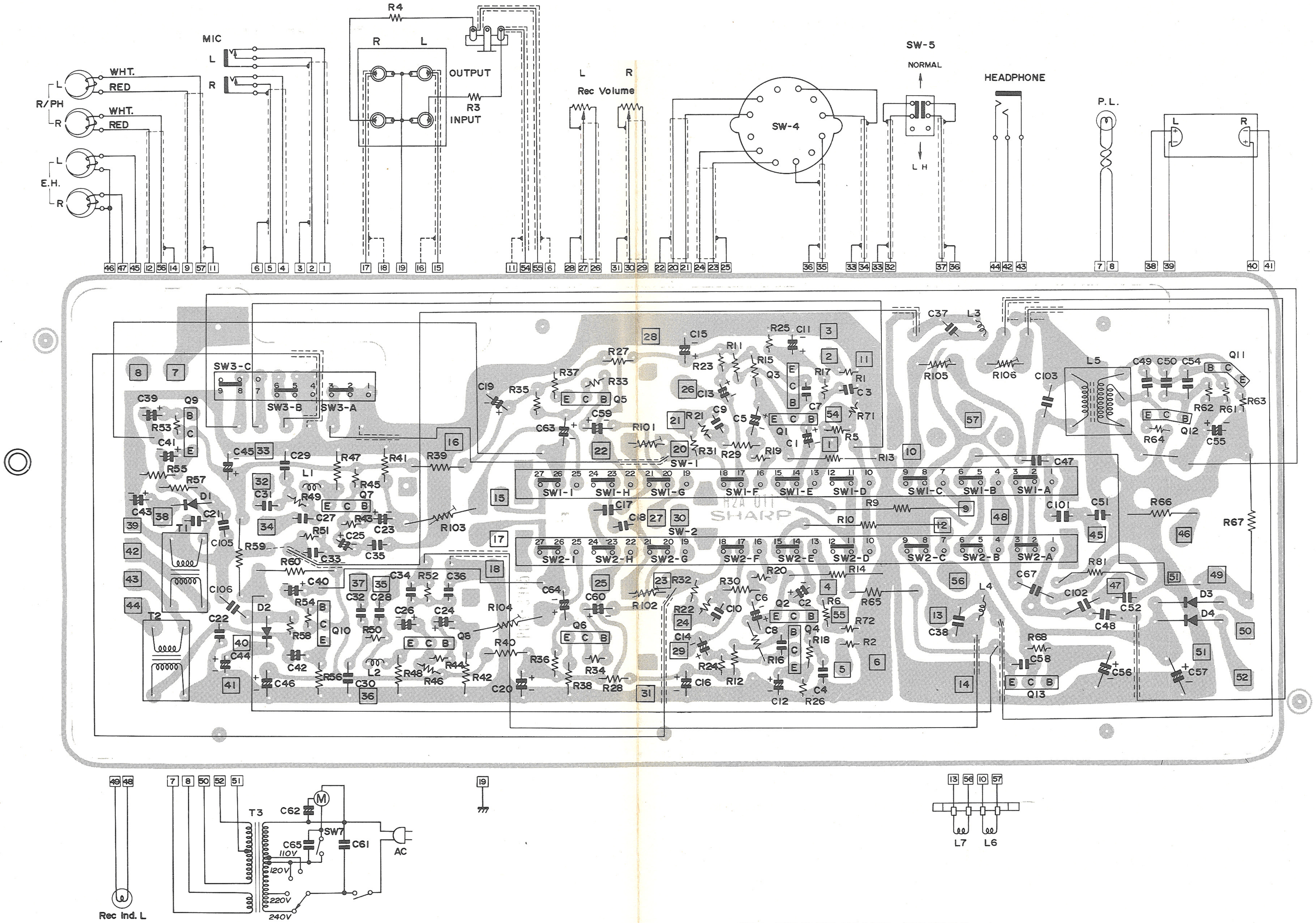
Note: The tape used must be sufficiently demagnetized by using a demagnetizer.

13. MEASUREMENT OF CHANNEL TO CHANNEL CROSSTALK (Refer to Fig. 31)

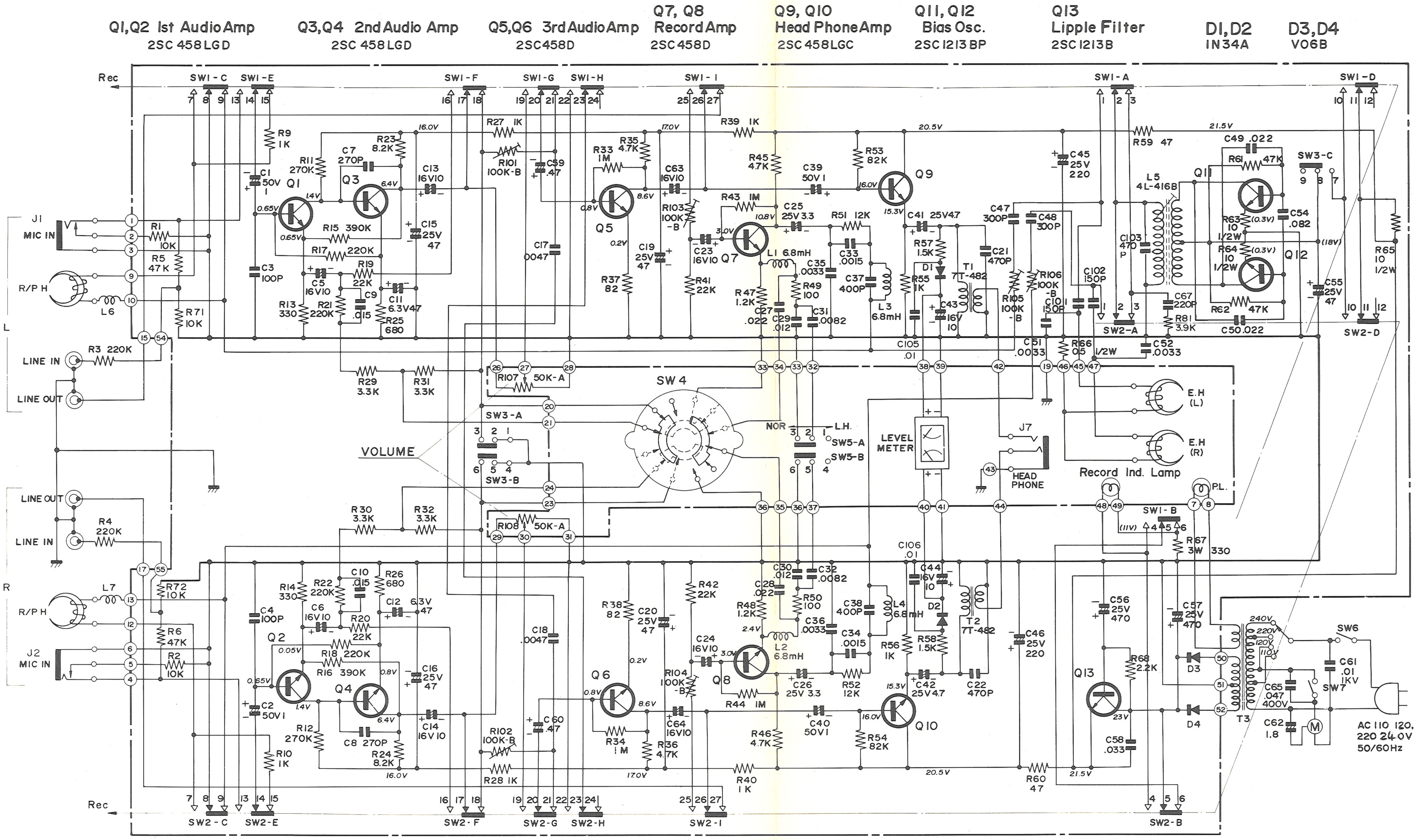
(1) Set the tape speed at 19cm/sec and the tape selector switch at NORMAL.
(2) Set the volume control at maximum for both channels and apply –60dB(0dB=1V), 1kHz signal to only one channel from MIC terminal and then record the STEREO.
(3) Playback the recorded part and measure the OUTPUT of the recorded channel and non-recorded channel through 1kHz band-pass filter. The deviation then measured must be over 45dB.

Note: The tape used must be sufficiently demagnetized by using a demagnetizer.

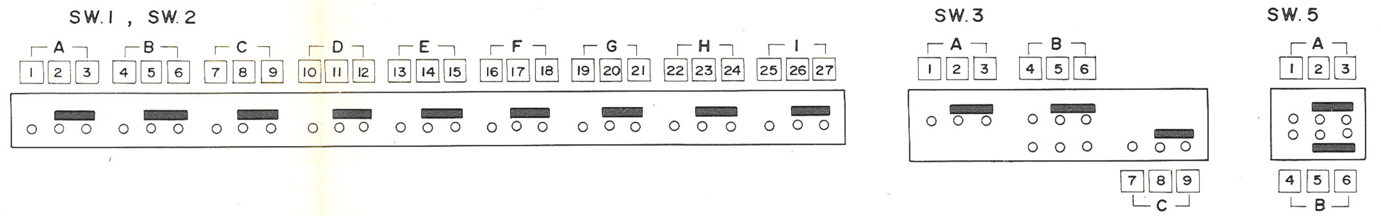

CR. OSC
I kHz
Attenuater
RECORD
mode
PLAYBACK
mode
50Kohm
I kHz
Band Pass
Filter
V.T.V.M.
Oscilloscope


R/PH
L
R
WHT.
RED
WHT.
RED
E.H.
MIC
R4
R
L
OUTPUT
R3
INPUT
Rec Volume
SW-4
SW-5
NORMAL
L H
HEADPHONE
P.L.
SW3-C
SW3-B
SW3-A
SW-1
SW-2
SHARP
T1
T2
T3
L1
L2
L3
L4
L5
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
D1
D2
D3
D4
SW7
C62
C65
C61
110V
120V
220V
240V
AC
Rec Ind. L
L7
L6

WIRING DIAGRAM OF PRINTED CIRCUIT BOARD (RT-727X)

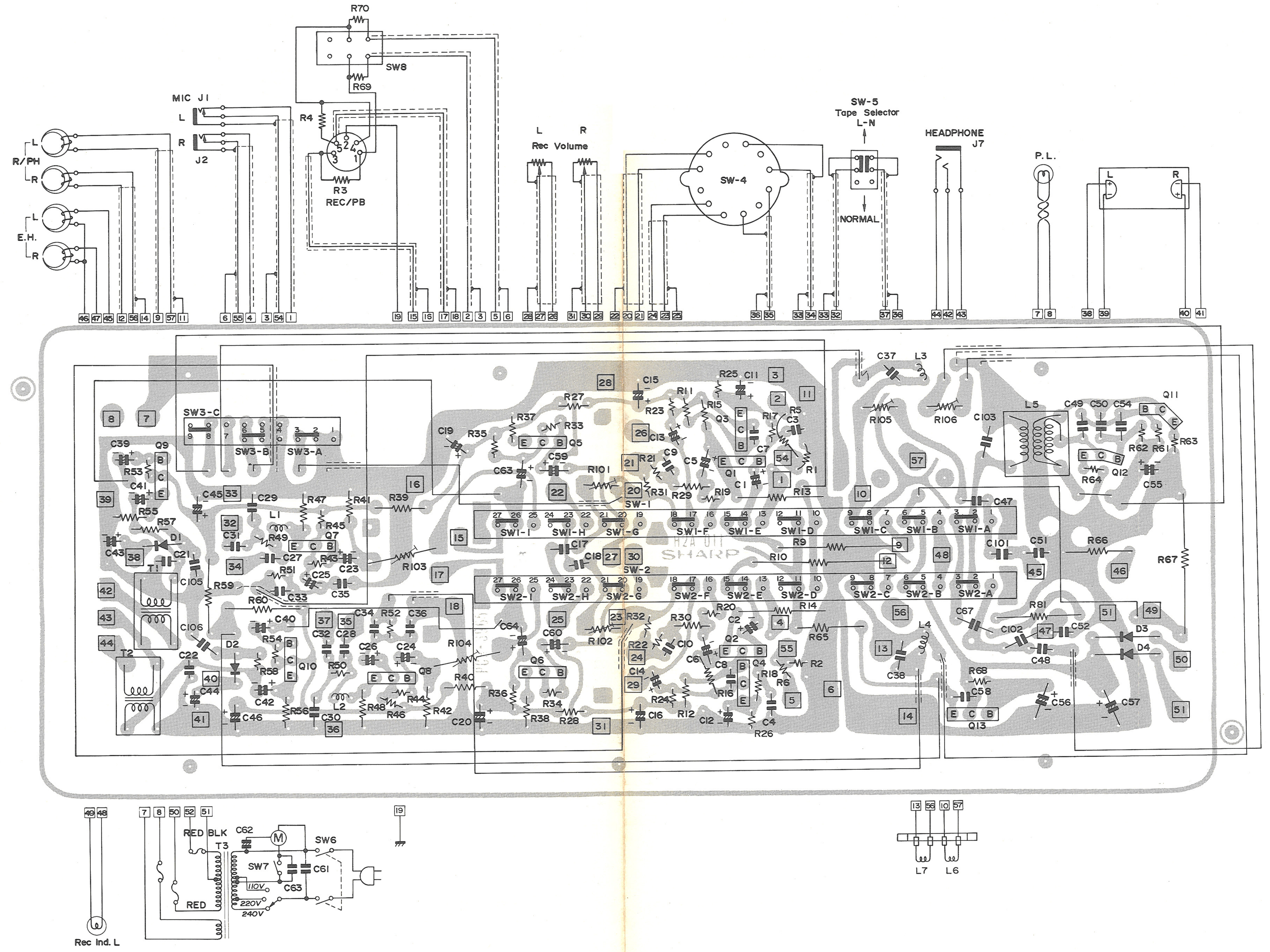

Q1,Q2 1st Audio Amp
2SC 458LGD
Q3,Q4 2nd Audio Amp
2SC 458LGD
Q5,Q6 3rd Audio Amp
2SC458D
Q7, Q8
Record Amp
2SC458D
Q9, Q10
Head Phone Amp
2SC 458LGC
Q11, Q12
Bias Osc.
2SC1213 BP
Q13
Lipple Filter
2SC1213B
D1,D2
IN34A
D3,D4
V06B
Rec
J1
MIC IN
R/P H
L
LINE IN
LINE OUT
R
J2
MIC IN
SW 4
VOLUME
LEVEL METER
J7
HEAD PHONE
E.H (L)
E.H (R)
Record Ind. Lamp
PL.
SW6
SW7
T3
AC 110 120, 220 240V
50/60Hz

NOTES
1. SW1, SW2 RECORD/PLAYBACK SWITCH SHOWN IN PLAYBACK POSITION.
2. SW3 MUTING SWITCH SHOWN IN STOP POSITION.
3. SW4 TAPE SPEED SELECTOR SWITCH SHOWN IN 7 1/2 ips POSITION.
4. SW5 TAPE SELECTOR SWITCH SHOWN IN NORMAL POSITION.
5. SW6 POWER SWITCH.
6. SW7 AUTO SHUT OFF SW.
7. VOLTAGE IN PARENTHESES TAKEN WITH SW.1, SW.2 IN RECORD POSITION.
8. VOLTAGE WITHOUT PARENTHESES TAKEN WITH SW.1 SW.2 IN PLAYBACK POSITION.
9. ALL RESISTORS ARE 1/4W UNLESS OTHERWISE NOTES.


SW.1, SW.2
A
B
C
D
E
F
G
H
I
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
SW.3
A
B
1 2 3 4 5 6
7 8 9
C
SW.5
A
1 2 3
4 5 6
B

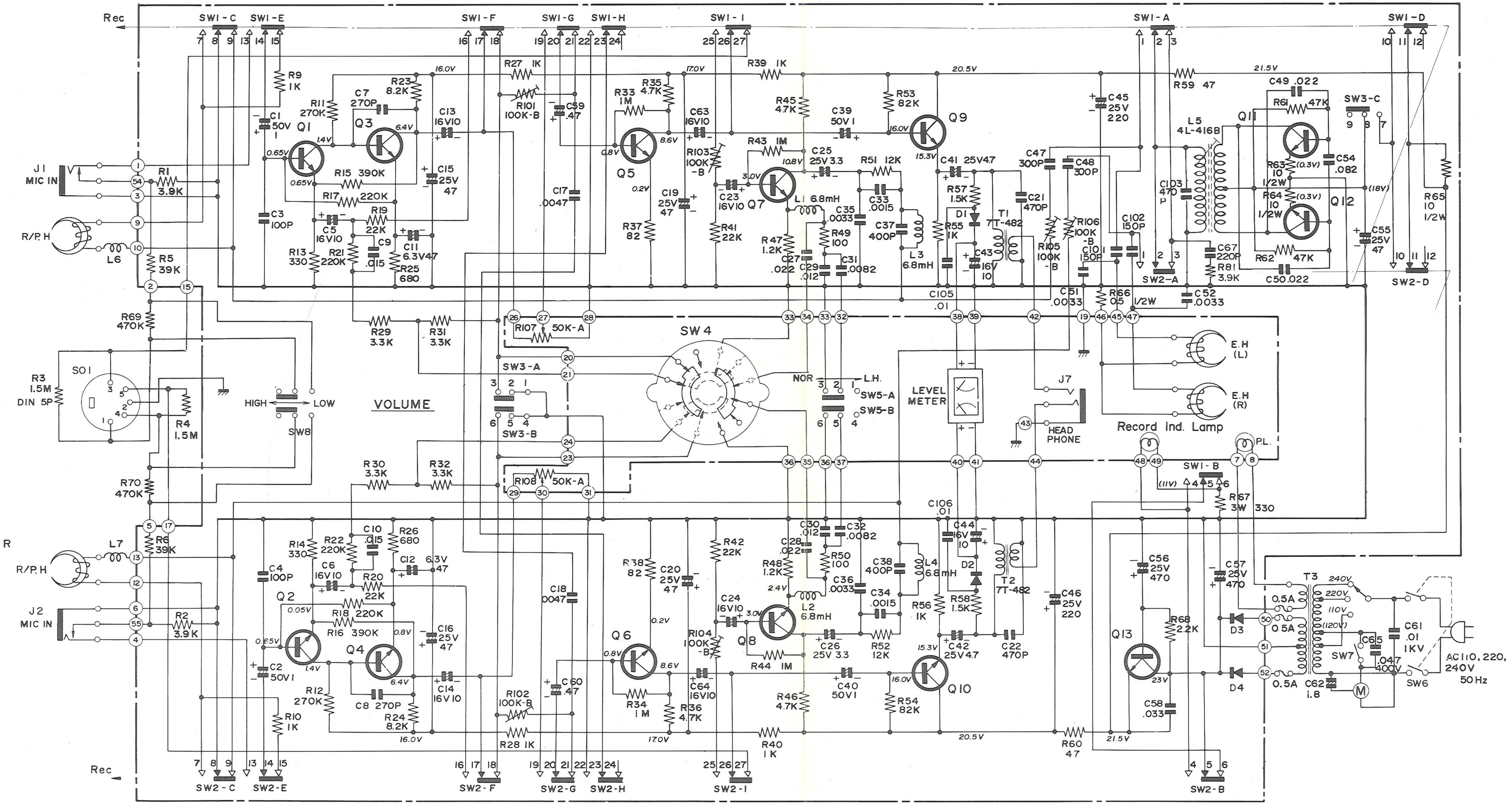
Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.

SCHEMATIC DIAGRAM (RT-727X)


R70
SW8
R69
MIC J1
L
R
J2
R4
R3
REC/PB
R/PH
E.H.
L
R
Rec Volume
SW-4
SW-5
Tape Selector
L-N
NORMAL
HEADPHONE
J7
P.L.
SW3-C
SW3-B
SW3-A
SW-1
SW-2
SW1-I
SW1-H
SW1-G
SW1-F
SW1-E
SW1-D
SW1-C
SW1-B
SW1-A
SW2-I
SW2-H
SW2-G
SW2-F
SW2-E
SW2-D
SW2-C
SW2-B
SW2-A
SHARP
T1
T2
T3
L5
Q11
Q12
Q13
RED
BLK
C62
SW6
SW7
C61
C63
110V
220V
240V
Rec Ind. L
L7
L6

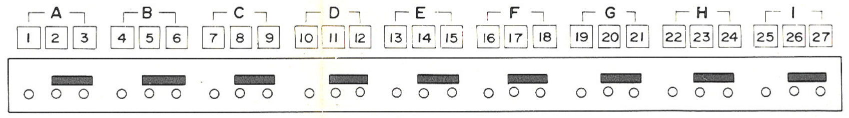
WIRING DIAGRAM OF PRINTED CIRCUIT BOARD (RT-727H)

Q1,Q2 1st Audio Amp	Q3,Q4 2nd Audio Amp	Q5,Q6 3rd Audio Amp	Q7, Q8 Record Amp	Q9, Q10 Head Phone Amp	Q11, Q12 Bias Osc.	Q13 Lipple Filter	D1,D2	D3,D4
2SC 458LGD	2SC 458LGD	2SC458D	2SC458D	2SC 458LGC	2SC1213BP	2SC1213B	IN34A	V06B

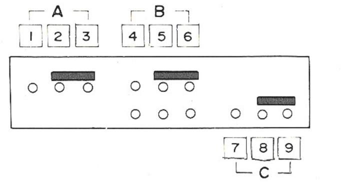

Rec
SW1-C
SW1-E
SW1-F
SW1-G
SW1-H
SW1-I
SW1-A
SW1-D
J1 MIC IN
R/P. H
L6
R1 3.9K
R5 39K
R69 470K
R3 1.5M DIN 5P
SO1
R4 1.5M
HIGH
LOW
SW8
VOLUME
R70 470K
R
L7
R6 39K
J2 MIC IN
R2 3.9K
R9 1K
C1 50V 1
Q1
R11 270K
C7 270P
Q3
R23 8.2K
C13 16V10
C15 25V 47
R15 390K
R17 220K
C3 100P
C5 16V10
R19 22K
C9 .015
C11 6.3V47
R25 680
R13 330
R21 220K
R27 1K
R101 100K-B
C59 .47
C17 .0047
R29 3.3K
R31 3.3K
R107 50K-A
SW3-A
SW3-B
SW 4
R30 3.3K
R32 3.3K
R108 50K-A
Q5
R33 1M
R35 4.7K
C63 16V10
R103 100K -B
C19 25V 47
R37 82
R41 22K
Q7
R39 1K
R43 1M
C23 16V10
C25 25V 3.3
L1 6.8mH
R47 1.2K
C27 .022
C29 .012
C31 .0082
C35 .0033
R49 100
R45 4.7K
C39 50V 1
R51 12K
C33 .0015
C37 400P
L3 6.8mH
R53 82K
Q9
C41 25V4.7
R57 1.5K
D1
R55 1K
C43 16V 10
T1 7T-482
C21 470P
C47 300P
C48 300P
R105 100K -B
R106 100K -B
C101 150P
C102 150P
C105 .01
C51 .0033
R66 0.5 1/2W
C52 .0033
C45 25V 220
R59 47
L5 4L-4168
C103 470 P
Q11
Q12
C49 .022
R61 47K
R63 10 1/2W
R64 10 1/2W
C54 .082
R62 47K
C50 .022
C67 220P
R81 3.9K
SW2-A
SW3-C
C55 25V 47
R65 10 1/2W
SW2-D
NOR
L.H.
SW5-A
SW5-B
LEVEL METER
J7
HEAD PHONE
E.H (L)
E.H (R)
Record Ind. Lamp
PL.
SW1-B
R67 3W 330
(11V)
Q2
C2 50V1
R10 1K
C4 100P
R14 330
R22 220K
C6 16V10
C10 .015
R26 680
C12 6.3V 47
R20 22K
R18 220K
R16 390K
Q4
C16 25V 47
C14 16V10
C8 270P
R12 270K
R24 8.2K
R102 100K-B
R28 1K
C60 47
C18 .0047
Q6
R38 82
C20 25V 47
R34 1M
R36 4.7K
C64 16V10
R104 100K -B
R42 22K
Q8
C24 16V10
R44 1M
R48 1.2K
C28 .022
C30 .012
C32 .0082
R50 100
C36 .0033
L2 6.8mH
C26 25V 3.3
C34 .0015
C38 400P
L4 6.8mH
R52 12K
R40 1K
R46 4.7K
C40 50V1
R54 82K
Q10
C106 .01
C44 16V 10
D2
R56 1K
R58 1.5K
C42 25V4.7
T2 7T-482
C22 470P
C46 25V 220
R60 47
Q13
C56 25V 470
C57 25V 470
R68 2.2K
C58 .033
T3
240V
220V
110V
(120V)
0.5A
D3
D4
C62 1.8
C65 .047 400V
SW7
M
C61 .01 1KV
SW6
AC110, 220, 240V 50Hz
SW2-C
SW2-E
SW2-F
SW2-G
SW2-H
SW2-I
SW2-B
16.0V
17.0V
20.5V
21.5V
15.3V
10.8V
3.0V
2.4V
0.65V
0.05V
14V
1.4V
6.4V
8.6V
0.8V
0.2V
23V
(18V)
(0.3V)

NOTES
1. SW1, SW2 RECORD/PLAYBACK SWITCH SHOWN IN PLAYBACK POSITION.
2. SW3 MUTING SWITCH SHOWN IN STOP POSITION.
3. SW4 TAPE SPEED SELECTOR SWITCH SHOWN IN 7 1/2 ips POSITION.
4. SW5 TAPE SELECTOR SWITCH SHOWN IN NORMAL POSITION.
5. SW6 POWER SWITCH.
6. SW7 AUTO SHUT OFF SW.
7. SW8 INPUT LEVEL HIGH/LOW SW SHOWN IN HIGH POSITION.
8. VOLTAGE IN PARENTHESES TAKEN WITH SW1, SW2 IN RECORD POSITION.
9. VOLTAGE WITHOUT PARENTHESES TAKEN WITH SW1, SW2 IN PLAYBACK POSITION.
10. ALL RESISTORS ARE 1/4W UNLESS OTHERWISE NOTES.

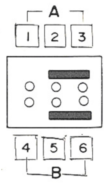
SW.1 , SW.2


A
B
C
D
E
F
G
H
I
1 2 3
4 5 6
7 8 9
10 11 12
13 14 15
16 17 18
19 20 21
22 23 24
25 26 27

SW.3

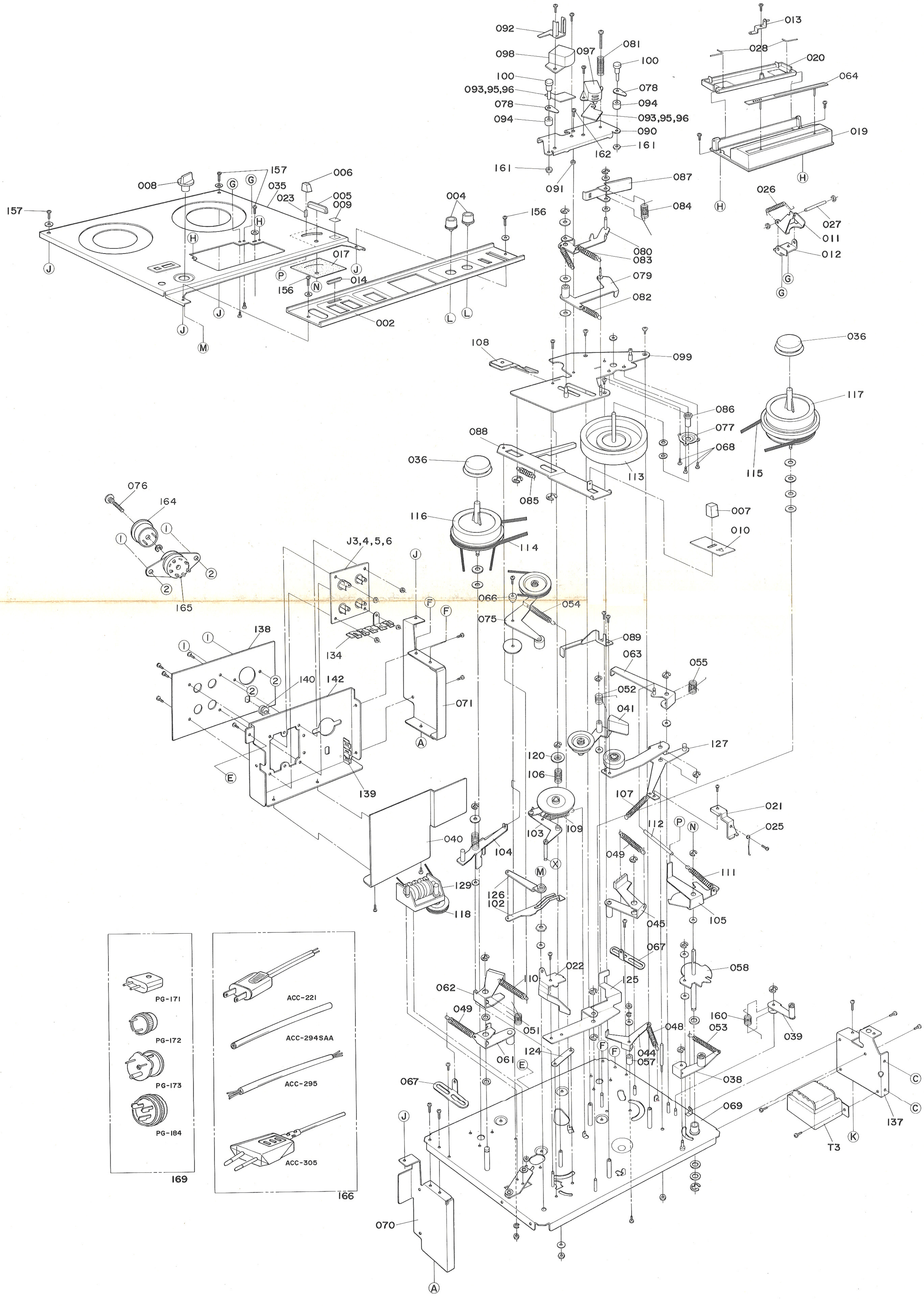

A
B
C
1 2 3
4 5 6
7 8 9

SW.5



Specifications or wiring diagrams of this model are subject to change for the improvement without prior notice.

SCHEMATIC DIAGRAM (RT-727H)


092
098
100
093,95,96
078
094
097
081
100
078
094
093,95,96
090
162
161
161
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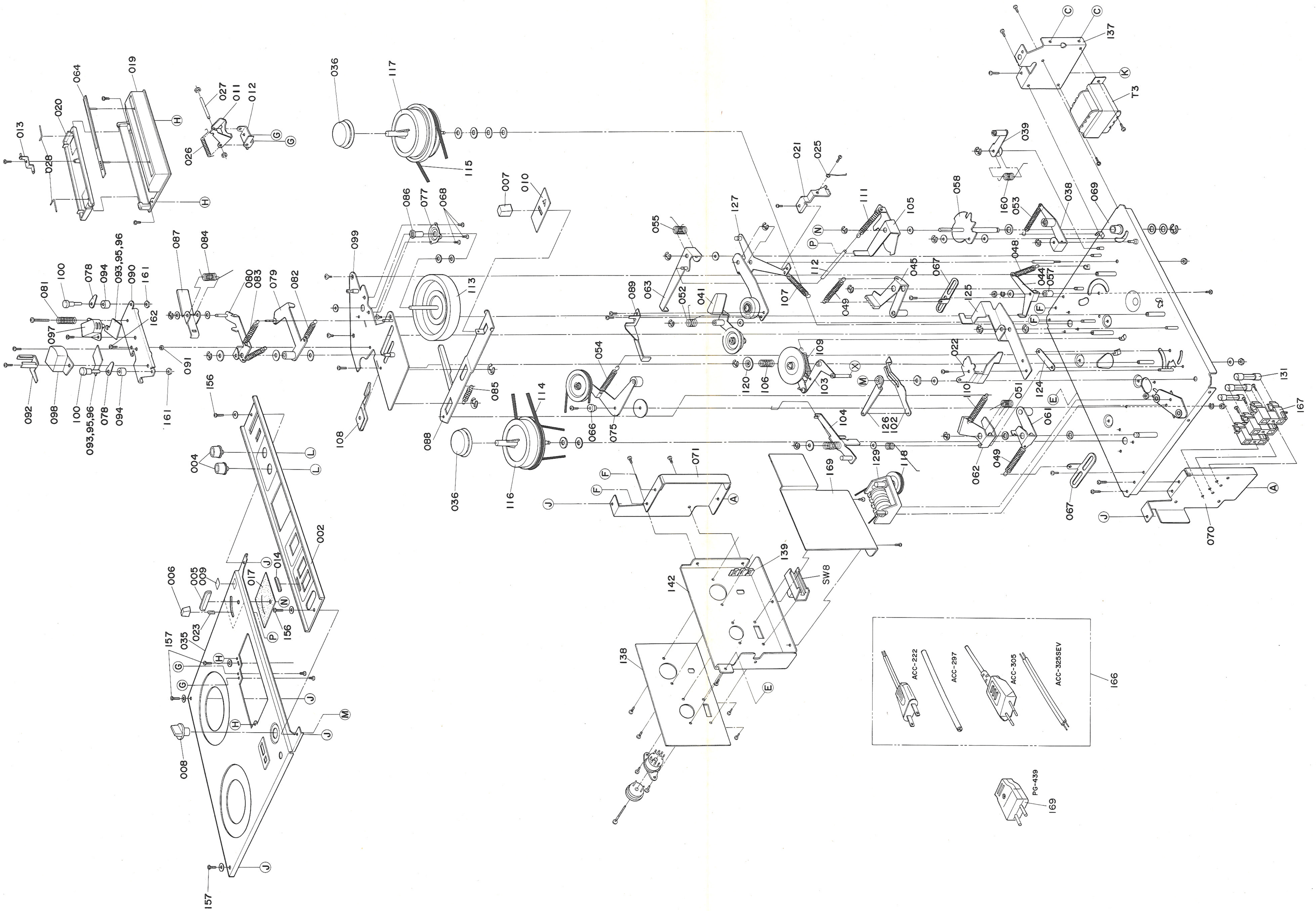
087
084
080
083
079
082
013
028
020
064
019
H
H
026
027
011
012
G
G
008
157
G
G
H
006
005
009
023
035
157
H
004
156
J
017
P
N
014
156
L
L
J
J
J
M
002
108
099
036
117
086
077
068
115
088
113
036
085
116
114
007
010
076
164
I
I
2
2
165
J3,4,5,6
J
F
F
066
054
075
134
138
I
I
2
2
140
142
071
A
E
089
063
055
052
041
127
120
106
139
107
021
025
109
103
112
P
N
049
111
040
104
X
M
129
126
102
118
045
105
067
058
PG-171
PG-172
PG-173
PG-184
169
ACC-221
ACC-294SAA
ACC-295
ACC-305
166
062
110
022
125
049
051
124
E
F
F
044
057
048
160
053
039
038
067
069
137
C
C
K
T3
J
070
A

MECHANISM EXPLODED TOP VIEW (RT-727X)

MECHANISM EXPLODED TOP VIEW (RT-727H)



013
028
020
064
019
H
H
027
011
012
026
G
G
036
117
115
007
010
086
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099
087
084
100
078
094
093,95,96
090
161
081
097
162
092
098
100
093,95,96
078
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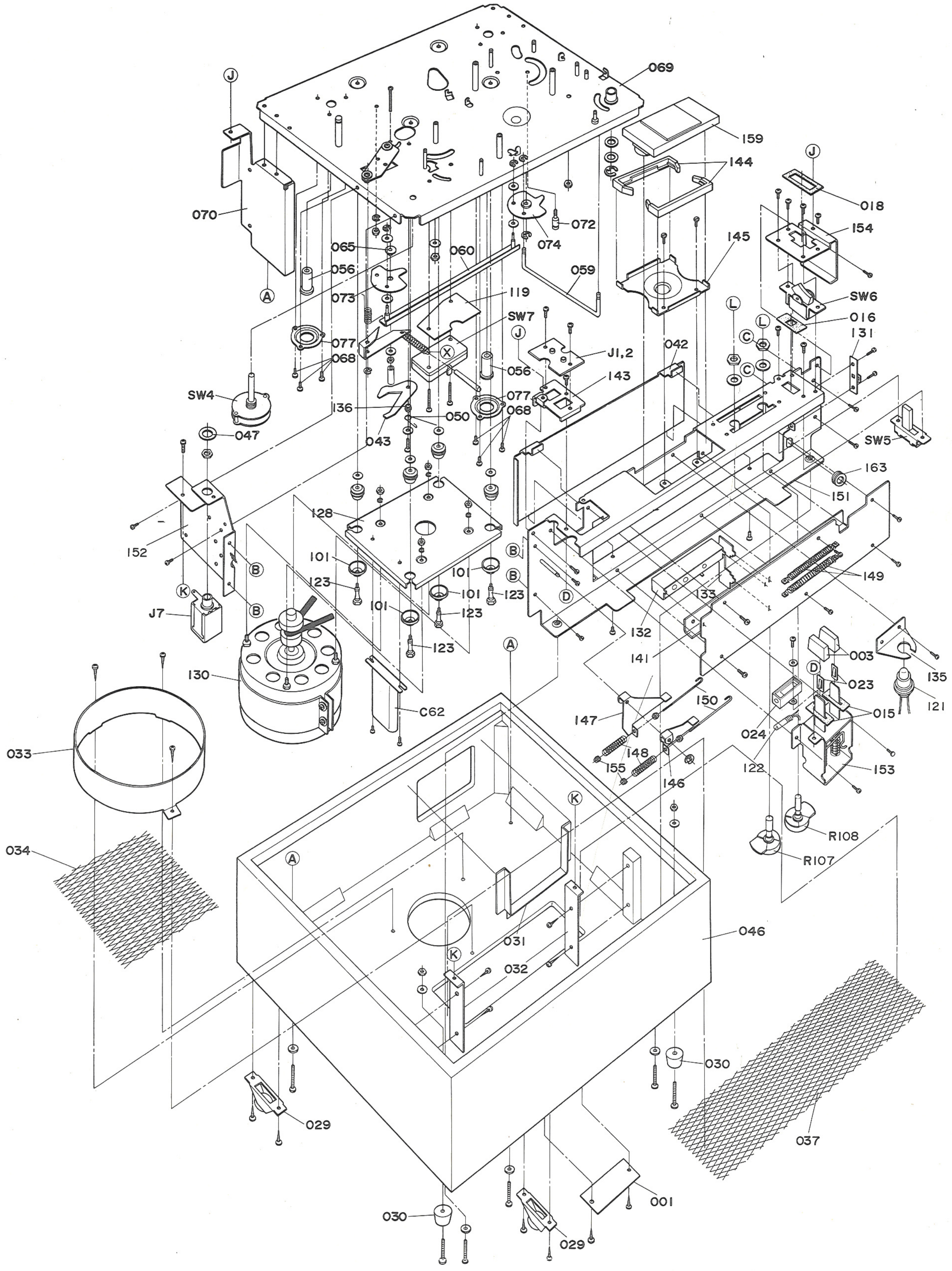
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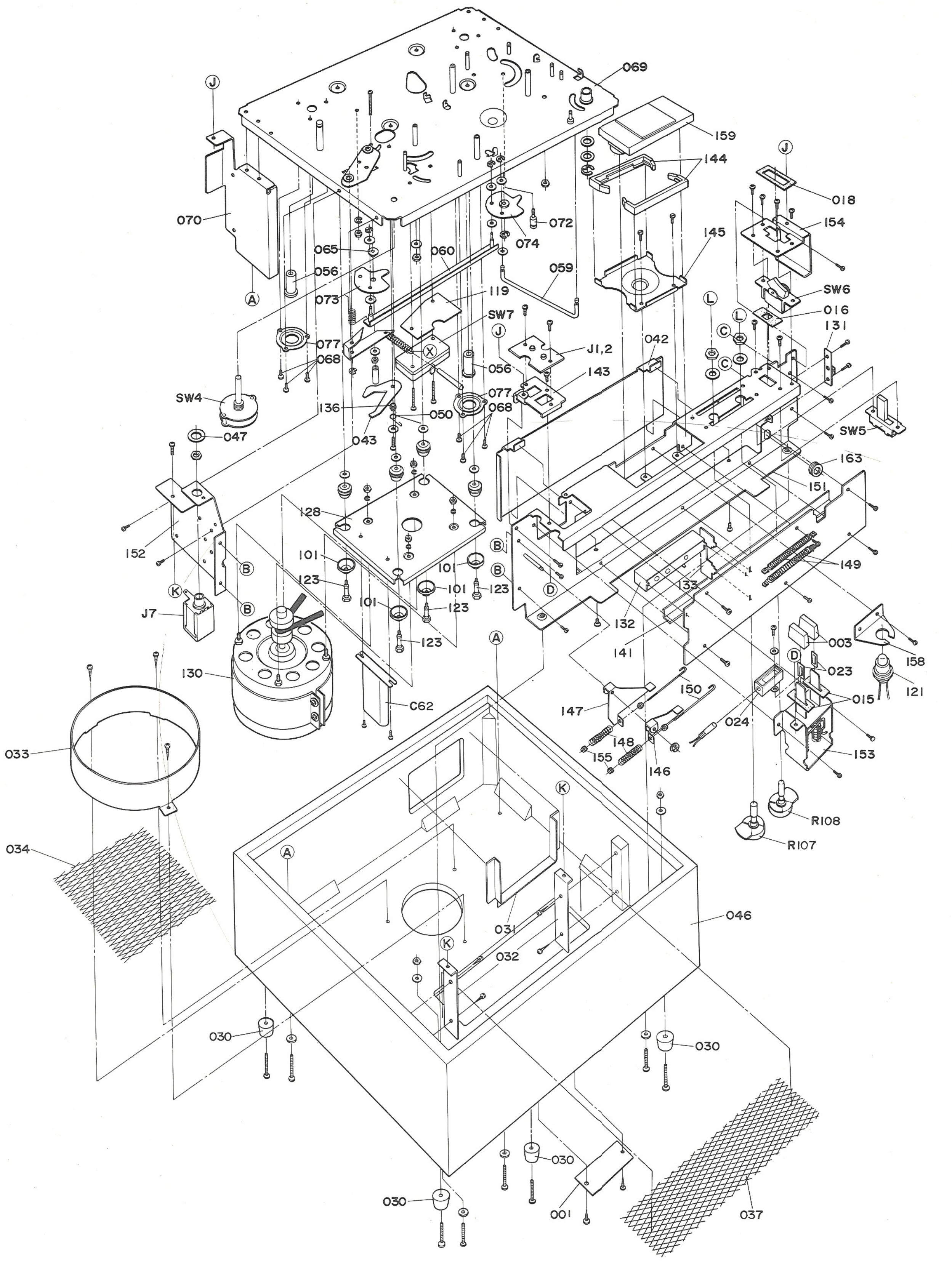
MECHANISM EXPLODED BOTTOM VIEW (RT-727X)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MECHANISM EXPLODED BOTTOM VIEW (RT-727H)

MODEL
RT 727H
RT 727X

MECHANISM

REF. NO.	PART NO.	DESCRIPTION		
001	IND-P0019A	Plate, Model Names		
	IND-P0018A	Plate, Model Names (727H)		
002	PANEL0019B	Plate, Control		
	PANEL0018B	Plate, Control (727H)		
003	8K-195	Button, Record		
004	8K-351	Button, Record Level		
005	X8K-564	Knob, Function Selector		
006	8K-566	Knob, Fast Forward		
007	8K-568	Knob, Pause		
008	8K-572	Knob, Tape Speed Selector		
009	IND-P3737B	Plate, "SHARP" Mark		
010	IND-3965C	Indication Plate, Pause Lever		
011	H-LOCK3965	Locker, Head Cover		
012	H-ANG3965	Bracket, Head Cover Locker		
013	LOCK-A3965	Connector, Head Cover		
014	PL-DEC-COV	Decoration Cover, Record Indicator		
015	FELT-223	Felt, Record Lever		
016	FELT-029	Felt, Tape Selector Switch		
017	FELT-3089	Felt, Fast Forward Lever		
018	FELT-3091	Felt, AC Power Supply Switch		
019	H-COV3965A	Cover, Head (Main)		
020	H-COV3965B	Cover, Head (Sub)		
021	MU-ANG3965	Lever, Equalizer Switch		
022	R-LEV3965B	Lever, Record Connecting		
023	SPR-251B	Pressure, Buttons		
024	PL-H3965	Holder, Pilot Lamp		
025	BANE-3965C	Spring, Equalizer Switch Lever		
026	BANE-3965A	Spring, Head Cover Lock		
027	H-SAFT3965	Shaft, Head Cover Lock		
028	H-PIN3965	Bracket, Head Cover		

REF. NO.	PART NO.	DESCRIPTION		
029	GOM-R3391	Roller, Cabinet		
030	LEG-436	Leg, Cabinet		
031	COVER-3965	Decoration Plate, Jacks Terminal		
032	MC-A3965	Bracket, Cabinet	of 046	
033	MOTOR-DUCT	Duct, Motor		
034	TUFU-P	Net, Ventilation		
	TUFUP0018A	Net, Ventilation (727H)		
035	XPANE3965A	Panel, Main		
	XPANE0018A	Panel, Main (727H)		
036	R-CAP3965	Cap, Reel Spindle		
037	TUFUP3965B	Net, Ventilation	Part of 046	
	TUFUP0018B	Net, Ventilation (727H)		
038	SL-P3965	Locker, Function Selector		
039	LOCKPLATE B	Locker, Function Selector		
040	SILOP3965C	Plate, Jacks Terminal Shield		
	SILDP0018C	Plate, Jacks Terminal Shield (727H)		
041	XT-ASY3965	Assembly, Fast Forward Tension Roller		
042	XSILP3965D	Plate, P.C.B. Shield		
043	LEVER-271H	Lever, Idler Release		
044	LEVER-271L	Lever, Fast Forward Tension Roller		
045	LEVER-271BL	Lever, Brake, Right Hand		
	LEVER-271BN	Lever, Brake, Right Hand (727H)		
046	X2CAB-3965	Cabinet		
	X2CAB-0018	Cabinet (727H)		
047	G-SPAC3947	Spacer, Headphone		

REF. NO	PART NO.	DESCRIPTION		
048	SPR-271B	Spring, F.F. Tension Roller Lever		
049	SPR-271DN	Spring, Brake Lever		
050	SPR-3965M	Spring, Idler Release Lever		
051	SPR-3965H	Spring, Brake Lever Return		
052	SPR-3965I	Spring, Fast Forward Tension Roller		
053	SPR-3965J	Spring, Function Selector Locker		
054	SPR-3965K	Spring, Rewind Roller		
055	SPR-271S	Spring, F.F. Roller Operate Lever		
056	METAL-371B	Metal, Reel Spindle		
057	SLEEVE-B	Sleeve, F.F. Tension Roller Lever		
058	CS-ASY3965	Assembly, Function Selector Cam		
059	ROD-271B	Lever, Transport		
060	CON-3965B	Lever, Transport		
061	BK-ACT-ASY	Assembly, Brake Lever, Left Hand		
062	BK-ASY3965	Assembly, Pause Brake Lever		
063	FF-ARM3965	Lever, F.F. Roller Operate		
064	IND-B3965	Indication Plate, Model Names		
065	SPACER271A	Spacer, Transport Cam		
066	L-SPACE271	Spacer, Rewind Roller Lever		
067	AJST-3659B	Adjusting Plate, Brake Lever		
068	X3TOK-6	Screw, 3φ x 6mm, Special		
069	X6MC-3965	Chassis, Main		
070	XCA-A3965C	Bracket, Main Chassis, Left Hand		
071	XCA-A3965D	Bracket, Main Chassis, Right Hand		
072	XSHAFT271C	Shaft, F.F. Tension Roller Lever		
073	CAM-PLATEB	Cam, Transport, Left Hand		
074	CAM-PLATEC	Cam, Transport, Right Hand		
075	XR-ASY3965	Assembly, Rewind Roller		
076	X3TOK-25	Screw, 3φ x 25mm, Special Not Used (727H)		
077	METAL-OSAE	Frame, Reel Spindle Metal		
078	TAPE-SIJI	Table, Tape		
079	TL-ASY3965	Assembly, Tape Lifter		
080	TA-ASY3965	Assembly, Tape Pad Lever		
081	SPR-271Q	Spring, Head Azimuth Adjusting		
082	SPR-3965A	Spring, Tape Lifter		
083	SPR-3965B	Spring, Tape Pad Lever		
084	SPR-3965C	Spring, Tape Pad		
085	SPR-3965P	Spring, Pause Lever		
086	C-BRG3965	Metal, Capstan		
087	TP-ASY3965	Assembly, Tape Pad		
088	PAUSE3965	Lever, Pause		
089	TL-SFT3965	Lever, Tape Pad Release		
090	XHD-BS3965	Plate, Heads		
091	SPACE3965A	Spacer, Heads Plate		
092	TP-B-3965	Bracket, Tape Tension		
093	SPCR-3965B	Spacer, Head Height Adjustment		

REF. NO.	PART NO.	DESCRIPTION		
094	SPACER-759	Spacer, Tape Guide Shaft		
095	SPACER759C	Spacer, Head Height Adjustment		
096	SPACER759D	Spacer, Head Height Adjustment		
097	HEAD-3965A	Head, Record/Playback		
098	HEAD-3965B	Head, Erase		
099	X6SC-3965	Chassis, Head Block		
100	XTAPE-GUID	Guide, Tape		
101	C-UKE	Cushion, Motor Bracket		
102	LEVER-271E	Lever, Tape Speed Selector		
103	XI-AY3965N	Assembly, Idler with Idler Lever		
104	SOS-A-3965	Assembly, Power Switch Lever		
105	FF-LEV3965	Lever, Fast Forward Control		
106	SPR-271J	Spring, Tape Speed Selector Lever		
107	SPR-3965E	Spring, Pinch Roller Lever		
108	SPR-3965F	Plate-Spring, Head Block Chassis		
109	SPR-3965L	Spring, Idler Lever		
110	SPR-3965N	Spring, Pause Brake Lever		
111	SPR-3965D	Spring, Fast Forward Control Lever		
112	CON-3965C	Rod, In the Fast Forward Spring		
113	FLY-3965	Flywheel		
114	BELT-3965A	Belt, Rewind		
115	BELT-271C	Belt, Playback and Fast Forward		
116	REEL-DAI-A	Spindle, Supply Reel		
117	R-DAI-BN-D	Spindle, Take up Reel		
118	BELT	Belt, Counter Drive		
119	SPACER271D	Insulator, Power Switch		
120	SPR-COVER	Pressure, Spring		
121	PL-2529	Lamp, Record Level Meter Illumination with Holder		
122	PL-591	Lamp, Record Indicator		
123	X4TOK-22	Screw, Motor Bracket Special		
124	XCUT-SW-A	Bracket, Power Switch		
125	XR-LEV3965	Lever, Record Buttons Release		
126	XS-ASY3965	Assembly, Tape Speed Selector Lever		
127	XP-ASY3965	Assembly, Pinch Roller Lever		
128	XMTR-P3965	Bracket, Motor		
129	XCOUNT3965	Counter, Tape (727X)		
	XCOUNT0018	Counter, Tape (727H)		
130	XMTR-0019	Motor, Drive		
131	LG-109	Lug, Transport		
	FUSE-0.5S	Fuse, Power Supply, 500mA (727H)		
132	SILD-3965A	Box, Shield		
133	SILD-3965B	Plate, Shield		
134	LG-209	Lug, Record/Playback Terminal		
136	SPACE3965C	Spacer, Brake Function Cam		
137	XCA-A3965B	Bracket, Main Chassis, Right Hand		

REF. NO.	PART NO.	DESCRIPTION		
138	IND-P0019B	Indication Plate, Terminals		
	IND-P0018B	Indication Plate, Terminals (727H)		
139	LG-213	Lug, Terminals Bracket		
140	BUSH-SR5P4	Bush, AC Power Cord		
	BUSHING	Bush, AC Power Cord		
141	ZET-P3965A	Insulator, Audio P.C.B.		
142	XJ-ANG0019	Bracket, Terminals		
	XJ-ANG0018	Bracket, Terminals (727H)		
143	XMIC-A3965	Bracket, Microphone Terminals		
144	GOMU3595	Rubber, Record Level Meter		
145	M-ANG3965	Bracket, Record Level Meter		
146	S-LEV3965A	Lever, Record Switch		
147	S-LEV3965B	Lever, Record Switch		
148	BANE-3965D	Spring, Record Switch Lever		
149	BANE-3965E	Spring, Record Switch		
150	ROD-3965B	Rod, Record Switch		
151	X6AMPC3965	Bracket, Audio P.C.B.		
152	XCA-A3965A	Bracket, Main Chassis, Left Hand		
153	XB-ASY3965	Assembly, Record Buttons		
154	SW-A3965A	Bracket, Power Switch		
155	2TOK-N763B	Nut, Record Switch Rod, Special		
156	X3TOK-8	Screw, Control Plate, 3φ x 8mm		
157	X3TOK-8	Screw, Main Panel, 3φ x 8mm		
158	P-ANG3965	Bracket, Meter Illumination Lamp		
159	METER-3749	Meter, Record Level		
160	SPR-271C	Spring, Function Selector Locker		
161	X4TOK-N	Nut, Tape Guide		
162	X3TOK-8	Screw, Heads Plate		
163	C-BUSH3603	Bush, AC Power Cord		
	ZETUENBUSH	Bush, AC Power Cord (727H)		
164	PG-509	Plug, Voltage Selector		
	PG-439	Plug, Voltage Selector (727H)		
165	XSO-993	Socket, Voltage Selector		
	SO-803	Socket, Voltage Selector (727H)		
166	ACC-207	Cord, AC Power Supply		
	ACC-221	Cord, AC Power Supply		
	ACC-294SAA	Cord, AC Power Supply		
	ACC-295	Cord, AC Power Supply		
	ACC-305	Cord, AC Power Supply		
	ACC-222	Cord, AC Power Supply (727H)		
	ACC-297	Cord, AC Power Supply (727H)		
	ACC-305	Cord, AC Power Supply (727H)		
	ACC-325SEV	Cord, AC Power Supply (727H)		

REF. NO.	PART NO.	DESCRIPTION		
167	FH-127	Holder, Fuse (727H)		
168	XSO-A3391	Bracket, Record/Playback Socket (727H)		
169	PG-171	Plug, AC Power Supply		
	PG-172	Plug, AC Power Supply		
	PG-173	Plug, AC Power Supply		
	PG-184	Plug, AC Power Supply		
	PG-439	Plug, AC Power Supply (727H)		

CAPACITORS

REF. NO.	PART NO.	DESCRIPTION		
C1, C2	CU-5-103R	1MFD, 50V, +150 –10%, Electrolytic		
C3, C4	D-5-107K	100PF, 50V, ±10%, Discap		
C5, C6	CU1.6-102Q	10MFD, 16V, +100 –10%, Electrolytic		
C7, C8	D-5-277K	270PF, 50V, ±10%, Discap		
C9, C10	ML-5-155K	.015MFD, 50V, ±10%, Mylar		
C11, C12	CU-06-472Q	47MFD, 6.3V, +100 –10%, Electrolytic		
C13, C14	CU1.6-102Q	10MFD, 16V, +100 –10%, Electrolytic		
C15, C16	CU2.5-472Q	47MFD, 25V, +100 –10%, Electrolytic		
C17, C18	ML-5-476M	.0047MFD, 50V, ±20%, Mylar		
C19, C20	CU2.5-472Q	47MFD, 25V, +100 –10%, Electrolytic		
C21, C22	D-5-477K	470PF, 50V, ±10%, Discap		
C23, C24	CU1.6-102Q	10MFD, 16V, +100 –10%, Electrolytic		
C25, C26	CU2.5-333R	3.3MFD, 25V, +150 –10%, Electrolytic		
C27, C28	ML-5-225K	.022MFD, 50V, ±10%, Mylar		
C29, C30	ML-5-125K	.012MFD, 50V, ±10%, Mylar		
C31, C32	ML-5-826J	.0082MFD, 50V, ±5%, Mylar		
C33, C34	ML-5-156K	.0015MFD, 50V, ±10%, Mylar		
C35, C36	ML-5-336K	.0033MFD, 50V, ±10%, Mylar		
C37, C38	S-5-407J	400PF, 50V, ±5%, Styrol		
C39, C40	CU-5-103R	1MFD, 50V, +150 –10%, Electrolytic		
C41, C42	CU2.5-473R	4.7MFD, 25V, +150 –10%, Electrolytic		
C43, C44	CU1.6-102Q	10MFD, 16V, +100 –10%, Electrolytic		
C45, C46	CU2.5-221Q	220MFD, 25V, +100 –10%, Electrolytic		
C47, C48	D-5-307K	300PF, 50V, ±10%, Discap		
C49, C50	ML-5-225K	.022MFD, 50V, ±10% Mylar		
C51, C52	ML-5-276K	.0027MFD, 50V, ±10%, Mylar		
C54	ML-5-825K	.082MFD, 50V, ±10%, Mylar		
C55	CU2.5-472Q	47MFD, 25V, +100 –10%, Electrolytic		
C56, C57	CU2.5-471Q	470MFD, 25V, +100 –10%, Electrolytic		

REF. NO.	PART NO.	DESCRIPTION		
C58	ML-5-335M	.033MFD, 50V, ±20%, Mylar		
C59, C60	AD1.6-474M	.47MFD, 16V, ±20%, Aluminum Electrolytic		
C61	OL-1K-105M	.01MFD, 1000V, ±20%, Oil		
C62	MP-25-183	1.8MFD, 250V, Metallized Paper		
C63, C64	CU1.6-102Q	10MFD, 16V, +100 –10%, Electrolytic		
C65	OL-40-475M	.047MFD, 1000V, ±20%. Oil		
C67	D-50-227J	220PF, 500V, ±5%, Discap		
C101, C102	D-50-157J	150PF, 500V, ±5%, Discap		
C103	S-50-477J	470PF, 500V, ±5%, Styrol		
C105,C106	ML-5-105M	.01MFD, 50V, ±20%, Mylar		

RESISTORS

REF. NO.	PART NO.	DESCRIPTION		
R1, R2	1/4SA3.9KK	3.9K ohm (RT-727H)		
R1, R2	1/4SA-10KK	10K ohm (RT-727X)		
R3, R4	1/4SA-1.5MK	1.5Meg ohm (RT-727H)		
R3, R4	1/4SA220KK	220K ohm (RT-727X)		
R5, R6	1/4SA-39KK	39K ohm (RT-727H)		
R5, R6	1/4SA-47KK	47K ohm (RT-727X)		
R9, R10	1/4SA-1KK	1K ohm		
R11, R12	1/4SU270KK	270K ohm		
R13, R14	1/4SU-330K	330 ohm		
R15, R16	1/4SU390KK	390K ohm		
R17, R18	1/4SU220KK	220K ohm		
R19, R20	1/4SU-22KK	22K ohm		
R21, R22	1/4SU220KK	220K ohm		
R23, R24	1/4SU8.2KK	8.2K ohm		
R25, R26	1/4SU-680K	680 ohm		
R27, R28	1/4SU-1KK	1K ohm		
R29, R30	1/4SU3.3KK	3.3K ohm		
R31, R32	1/4SU3.3KK	3.3K ohm		
R33, R34	1/4SU-1MK	1Meg ohm		
R35, R36	1/4SU4.7KK	4.7K ohm		
R37, R38	1/4SU-82K	82 ohm		
R39, R40	1/4SU-1KK	1K ohm		
R41, R42	1/4SU-22KK	22K ohm		
R43, R44	1/4SU-1MK	1Meg ohm		
R45, R46	1/4SU4.7KK	4.7K ohm		
R47, R48	1/4SU1.2KK	1.2K ohm		
R49, R50	1/4SU-100K	100 ohm		
R51, R52	1/4SU-12KK	12K ohm		
R53, R54	1/4SU-82KK	82K ohm		
R55, R56	1/4SU-1KK	1K ohm		
R57, R58	1/4SU1.5KK	1.5K ohm		
R59, R60	1/4SA-47K	47 ohm		
R61, R62	1/4SU-47KK	47K ohm		
R63. R64	1/2M-10K	10 ohm, 1/2W, ±10%, Carbon		
R65	1/2M-10K	10 ohm, 1/2W, ±10%, Carbon		
R66	1/2MR-0.5K	0.5 ohm, 1/2W, ±10%, Carbon		
R67	3PO-330K	330 ohm, 3W, ±10%, Oxide film		
R68	1/4SU2.2KK	2.2K ohm		
R69, R70	1/4SA470KK	470K ohm (RT-727H)		
R71, R72	1/4SA-10KK	10K ohm (RT-727X)		
R81	1/2M-3.9KK	3.9K ohm, 1/2W, ±10%, Carbon		

REF. NO.	PART NO.	DESCRIPTION		
R101, R102	8V-3490	100K ohm (B curve), Playback Amplifier Sensitivity Adjust		
R103, R104	8V-3490	100K ohm (B curve), Recording current Adjust		
R105, R106	8V-3490	100K ohm (B curve), Bias current Adjust		
R107, R108	8V-3552	50K ohm (A curve), Volume Control		

SEMICONDUCTORS

REF. NO.	PART NO.	DESCRIPTION		
Q1, Q2	2SC458LG Ⓓ	Transistor, 1st Audio Amplifier		
Q3, Q4	2SC458LG Ⓓ	Transistor, 2nd Audio Amplifier		
Q5, Q6	2SC458 Ⓓ	Transistor, 3rd Audio Amplifier		
Q7, Q8	2SC458 Ⓓ	Transistor, Record Amplifier		
Q9, Q10	2SC458LG Ⓒ	Transistor, Headphone Amplifier		
Q11, Q12	2SC1213B Ⓟ	Transistor, Bias Oscillator		
Q13	2SC1213B	Transistor, Lipple Filter		
D1, D2	1N34A	Diode, Meter Rectifier		
D3, D4	SI-RECT-75	Diode, Power Rectifier.		

COILS AND TRANSFORMERS

REF. NO.	PART NO.	DESCRIPTION		
L1, L2, L3, L4	4L-963	Coil, Bias Trap (6.8mH)		
L5	4L-416B	Coil, Bias Oscillation		
L6, L7	4L-026	Coil, Choke (Hum Cancellation)		
T1, T2	7T-482	Transformer, Headphone		
T3	5T-938H	Transformer, Power Supply (RT-727H)		
T3	5T-946	Transformer, Power Supply (RT-727X)		

MISCELLANEOUS

REF. NO.	PART NO.	DESCRIPTION		
SW1, SW2	13S-434	Switch, Record/Playback		
SW3	13S-436	Switch, Muting		
SW4	13S-142	Switch, Tape Speed Selector (Equalizer)		
SW5	X13S-018	Switch, Tape Selector (RT-727H)		
SW5	X13S-432	Switch, Tape Selector (RT-727X)		
SW6	X0S-89	Switch, Power (RT-727H)		
SW6	X13S-810	Switch, Power (RT-727X)		
SW7	8S-43	Switch, Auto Shut off		
SW8	5S-55	Switch, DIN Input Level Selector (RT-727H only)		
J1, J2	J-3929	Jacks, Microphone		
J3, J4, J5, J6	SO-806	Jacks, Line In, Line Out (RT-727X only)		
J7	J-961	Jack, Headphone		
	SO-011	Socket, REC/PB (RT-727H only)		

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